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The Teacher Efficacy Construct and Its Relationship to Attributional Dimensions (Causal Attributions) and Attributional Style

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THE TEACHER EFFICACY CONSTRUCT AND ITS
RELATIONSHIP TO
ATTRIBUTIONAL DIMENSIONS
(CAUSAL ATTRIBUTIONS)
AND
ATTRIBUTIONAL STYLE

BY

CHARLENE MARIE HOPP CONARTY

A Dissertation Submitted to the
Faculty of the Graduate School of
Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

May

1993

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VITA

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CHAPTER I

INTRODUCTION

The need for a better understanding of the teachers' role in the learning process has generated much research as well as debate during the last decade of educational reform. The search for predictors of teacher effectiveness has led to the examination of many variables. The variable of the teachers' belief system has become a significant area of study in relation to its effect on teacher behaviors and ultimately teacher effectiveness.

Teacher behavior studies in relation to beliefs have gained increasing interest in the research community. As Enoch and Riggs (1990, p.6) state, beliefs are part of the foundation upon which behaviors are based. A number of studies investigating beliefs indicate that beliefs account for individual differences in teacher effectiveness (Armor et al. 1976, p.7,34,35,51; Ashton & Webb, 1986, p.9-10, 169-170; and Berman & McLaughlin, 1977, p.159-162).

The 1980's began a concentration of research activity related to the construct of teacher efficacy. The variable of teacher efficacy as a belief construct has shown increasing promise as a significant factor in the study of

teacher effectiveness. There is mounting research interest in the area of teacher efficacy as researchers are showing its connection to teacher effectiveness and student achievement. Teacher efficacy has been found to correlate significantly with student achievement and effective teaching behaviors (Armor et al. 1976, p.7,34,35,51; Ashton & Webb, 1986, p.130-139; Berman & McLaughlin, 1977, p.159-162; Dembo & Gibson, 1985, p.174; Denham & Michael, 1981, p.39; Gibson & Dembo, 1984, p.569; Guskey, 1986, p.4; and Woolfolk & Hoy, 1990, p.146).

Purpose

It is not readily apparent from the literature to what a teacher's sense of efficacy may be attributed, or how to analyze deficits in teacher-self-efficacy which lead to feelings of helplessness. To further understand the efficacy construct, this paper investigated the antecedent correlates of the teacher efficacy construct, specifically causal attributions as they relate to levels of efficacy, and attributional styles of learned helplessness.

Ashton (1984b, p.28-30) states that a teacher's sense of efficacy is the extent to which a teacher believes that s/he has the capacity to affect student outcomes. The importance of teacher efficacy relates to the teacher's perceived ability to deal effectively with problems of student learning as well as the complexities of teaching. A

better understanding of the efficacy construct and its importance is needed to aid teachers in dealing with conflicting pressures and contradictory role expectations in our current educational system that lead to a sense of low efficacy and resulting helplessness. The teacher must be seen as the potent motivator of student learning in order to remedy problems of student learning in the current system.

Ashton, Webb and Doda's (1982, p.28) research indicates that a major influence on a teacher's sense of efficacy is a feeling of uncertainty about whether or not s/he has a significant impact on student learning due to his or her ability or inability as a teacher to handle student problems. Lortie (1975, p.144) also enforces these ideas when he states that teachers need support to combat the negative influences of classroom isolation and uncertainties about their personal teaching effectiveness and self-esteem.

The purpose of this paper was to identify causal sources of teachers' sense of efficacy and inefficacy and resulting helplessness in order to better understand the construct and, thereby, overcome its negative effects on student learning.

Theoretical Framework for the Study

Self-Efficacy Construct

Pioneer work in self-efficacy research was done by Albert Bandura (1986, p.425f). Self-efficacy is a key concept in Albert Bandura's social cognitive theory. Self-

efficacy is the belief that effort will lead to a certain level of success. Bandura looks at self-efficacy as a key variable in performance.

Bandura (1977b, p.79f; 1982, p.123) originally proposed the construct of self-efficacy. In his social learning theory, Bandura hypothesized that behavior was determined by one's belief about action and expectancy-outcome relationships and, also, by the belief that one has the skills and the ability to produce a given outcome. Bandura (1986, p.393) maintains that the manner in which people judge their capabilities affects their motivation and behavior.

Bandura (1986, p.392) views expectancy outcomes as conditional upon performance judgments. People rely upon self-efficacy judgments in deciding upon courses of action. Therefore, expected outcomes are dependent on efficacy judgments. The conclusion is that self-efficacy predicts performance. People's beliefs about their capabilities function as one set of determinants of how they behave. Bandura (Bandura, 1982, p.123f) used self-efficacy to investigate a person's predicted success.

Bandura (1986, p.394-395,402) further states that perceived self-efficacy shapes causal thinking. The highly efficacious are inclined to attribute failure to insufficient effort, those of comparable skills but lower perceived self-efficacy attribute failure to deficient

ability.

Teacher Self-Efficacy Construct

Borrowing from this self-efficacy construct, the construct of teacher self-efficacy was introduced into teaching research during the Rand Corporation's evaluation of one-hundred Title III Elementary and Secondary Education Act projects as a two-dimensional construct. Berman and McLaughlin (1977, p.159-160) concluded from these studies that teachers' sense of efficacy was one of the best predictors of the percentage of project goals achieved, amount of teacher change, continuation of project methods and materials, and improved student performance.

Berman and McLaughlin (1977, p.159-160) based their measures of teacher efficacy on a two-item questionnaire. One question they asked was, "When it comes right down to it, a teacher really can not do much because most of a student's motivation and performance depends on his or her home environment." The second question asked was, "If a teacher really tries hard enough s/he can get through to even the most difficult or unmotivated students." This resulted in a two-dimensional component to the efficacy definition. The two dimensions are self-efficacy (competency) and expectancy.

In a study published in 1986, Ashton and Webb (1986, p. 148) used teaching efficacy as a research construct in

relation to student achievement. They studied the teacher efficacy variable as an expectancy construct with two dimensions: one dimension dealt with personal teaching efficacy or personal competency, the other dimension dealt with the general expectancy that teaching is effective. Confirmation of the two-factor dimension was confirmed by factor analysis studies done by Gibson and Dembo (Gibson & Dembo, 1984, p.579).

A central focus in Ashton and Webb's (1986, p.151-152) theorizing on the efficacy construct includes efficacy expectations: that is whether the perceived outcome of an event will be success or failure. They detail three dimensions that affect efficacy expectations. The dimensions are stability, locus, and control. Stability refers to whether the cause of failure is seen as fixed or fluctuating: that is whether it is perceived as being able to be changed. Locus refers to the cause of failure being external or internal to the individual. Control refers to the cause of failure being within the teacher's control or uncontrollable by the teacher.

Locus of Control

Although locus of control was not measured as such in this research, it needs to be considered because of its integral relationship to efficacy and attribution.

The locus of control construct deals with the perception of contingencies between action and outcomes. It is a critical construct in the understanding and development of causal attributions because it influences the underlying concept of attribution theory. Heider (1958, p.89f) originated the attributional approach by theorizing that action depends on two sets of conditions: those within the individual and those outside the individual. Rotter (1966, p.1-5) developed his concept by determining causality to have an external and internal dimension. Weiner (,1986, p.44-51) elaborated on causality by adding the dimension of stability of causes which means that some internal causes fluctuate and some are constant.

Attribution Theory

Attributional Dimensions Construct

(Causal Dimensions of Attributions)

Attribution theory was first proposed by Fritz Heider (1958) and deals with the assigned causes of events. Attribution theory focuses on inferences that are made to assign causes or explanations to events. At the heart of the theory are the decisions which are made regarding the causes attached to observed behaviors (Plotnik & Mollenauer, 1986, p.572-576). Attributions are the explanations given for an event, the motives attributed to other people, and

the types of causes attributed to the outcomes of a problem. Actions are determined by the causes an individual attributes to events.

A leading attribution theorist dealing with outcomes of achievement-outcome motivation and perceptions of causation is Bernard Weiner. Attribution theory according to Weiner (1976, p.179) is concerned with a person's perceptions of causality: the reasons given as to why a particular event occurs are a concern here. Weiner states that the perceived cause of a particular event could be either external or internal to the individual. Weiner (1986, p.240) created a causal taxonomy to categorize dominant causal perceptions. The three causal dimensions of the taxonomy are locus, stability, and controllability. He views these categories as influencing changes in success expectations. The categories contain the influences of such dichotomous emotions as pride of accomplishment or hopelessness. Therefore, they are instrumental in guiding motivation and behavior.

In education, attribution theory is pertinent with respect to achievement-related tasks. Attribution theory gives us four causes to interpret and predict the outcome-achievement factor. The four causes most used to interpret achievement related tasks are ability, effort, task difficulty, and luck. In attempting to determine success or failure, an individual estimates his or her performance on

his or her level of ability, the amount of effort expended, the difficulty of the task, and the amount or perceived luck involved (Weiner, 1976, p.184-186).

Attributions are said to meet a number of needs for the attributor including the need to explain, to predict, and to protect the self and social identity. These functions of attributions influence both the antecedents and consequences of attributions. Attributions of success to skill or chance are also found to result in different levels of self-efficacy. These ideas are supported by theorists such as Bandura (1977b, p.78-87,107f,132-133), Forsyth, 1980, p. 184, and Sherer (1982, p.669f).

Attributional Style

(Learned Helplessness)

Put simply, learned helplessness is the belief that nothing can be done to create a change. Learned helplessness can be either a general expectation or it can be situation specific.

Attributional style derives from attribution theory. Learned helplessness is related to attribution theory through the causal ascriptions in a given causal dimension. For instance, according to Seligman, if one attributes negative events to uncontrollable, stable, internal causes that are generally pervasive for the individual then helplessness or depression results (Peterson, Semmel, von

Baeyer, Abramson, Metalsky & Seligman, 1982, p.287-288; Peterson & Seligman, 1984, p.347-348).

Attributional style can be considered according to whether a person perceives causes of outcomes to be related to internal or external causation; stable versus unstable causation; or global versus specific causes according to Seligman (Peterson, Semmel et al. 1982, p.287-288).

The educational consequence of helplessness and its effect on efficacy results in the ascription of causes to uncontrollable factors. This creates the affective consequence in Weiner's model of hopelessness and inactivity and resultant ineffective teaching (Weiner, 1985a, p.559f; Weiner 1985b, p.77f; Weiner, 1986, p.181f).

Scope and Limitations of the Study

The study attempted to address the multi-dimensionality of the self-efficacy construct and relate it to attributional causality. It aimed through the theory of Bernard Weiner (1986, p.44-51) to focus on three dimensional factors of causality (locus, control, and causality) and four interactions of causes (ability, effort, task difficulty, and luck) with those factors.

The absence of a definitive study on the attributions of causality limited the study to the definitions established for causality in the instruments selected. The simplification of a considerably complex interaction of

variables must generalize its findings very judiciously. Careful consideration must be given to definition. There is concern in the literature due to ambiguity of meaning of definitions and concepts (Weiner, 1986, p.46,84-85,111).

The definition and the categorizing of causal attributions has caused confusion in the research into attribution theory. Ability has been defined as both a fixed and a variable cause (Weiner, 1986, p.85,112).

Rotter (1982, p.315-322), Lefcourt (1981, p.70,111, 163-167) and Weiner(1986, p.111-112), comment on assessing causality from the perspective of the theorist and not from the perspective of the subject. Causation and expectancies are determined a priori. In order to advance theory, however, definitions must be precise. The construct of the categories must be determined from those definitions and perspectives only for general applicability.

Beliefs about causation are assessed post hoc. There is a concern that post hoc analysis could involve a subject's self-serving attributions. This concern was investigated by Bradley (1978, p.56). The conclusion was that self-esteem needs to be served by counter-defensive attributions. This was done by the questionnaires used in this study in that both positive and negative questions and situations were used as counterbalances. (Questionnaires, Appendix A)

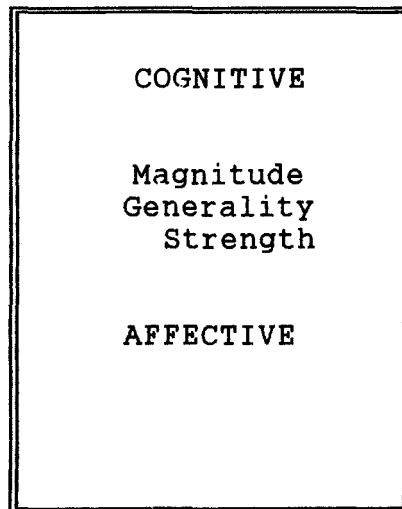
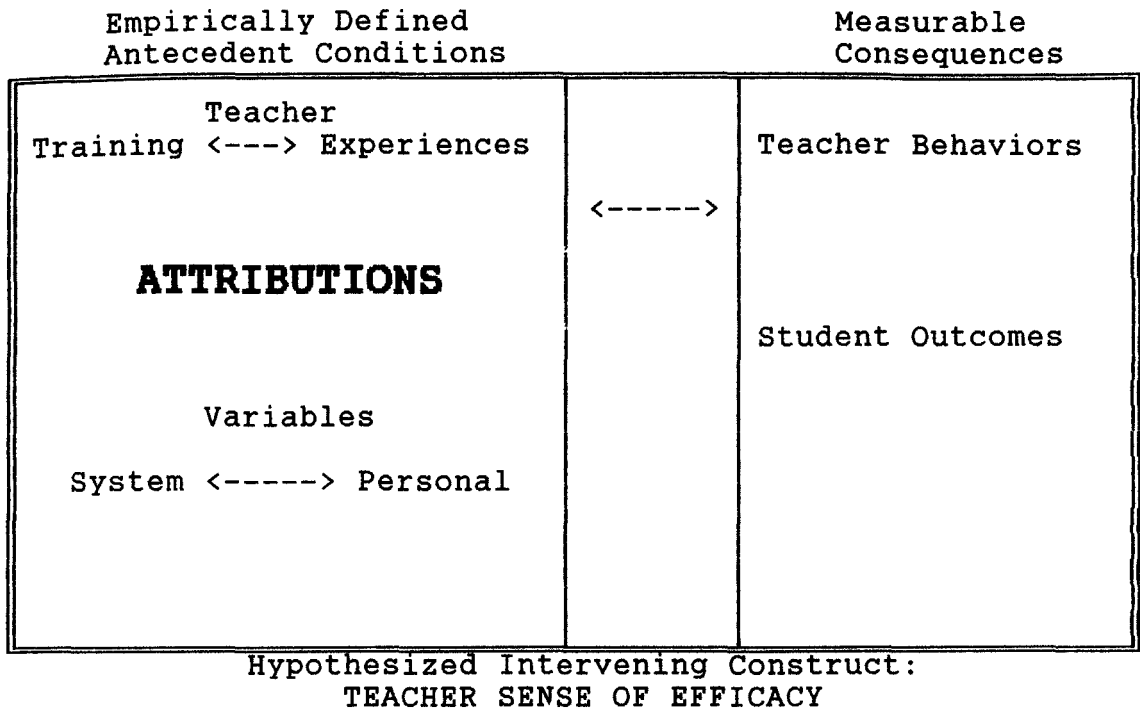
CONCEPTUAL MODEL

The measurement of the self-efficacy construct and attributional causality is a multidimensional procedure. Therefore, the conceptual model guiding this research has three facets.

The overall conceptual model used in the examination of the questions was taken from the Denham and Michael study (1981, p.40). It is entitled A Model for the Study of Teachers' Sense of Efficacy (Figure 1, p.13) The model views attributions as antecedent conditions along with teacher training, teaching experience, personal variables, and system variables. Teacher sense of efficacy is the hypothesized intervening variable seen as both cognitive and affective and having the dimensions of generality, magnitude, and strength. The consequences of this model are teacher behaviors (in this instance responses). Relevant factors are attitudes, beliefs, social cognitions, and attributional processes. The goal was to examine the causal attributions that may influence a person's efficacy.

Figure 1

An Interactive Model for the Study of Teachers' Sense of Efficacy

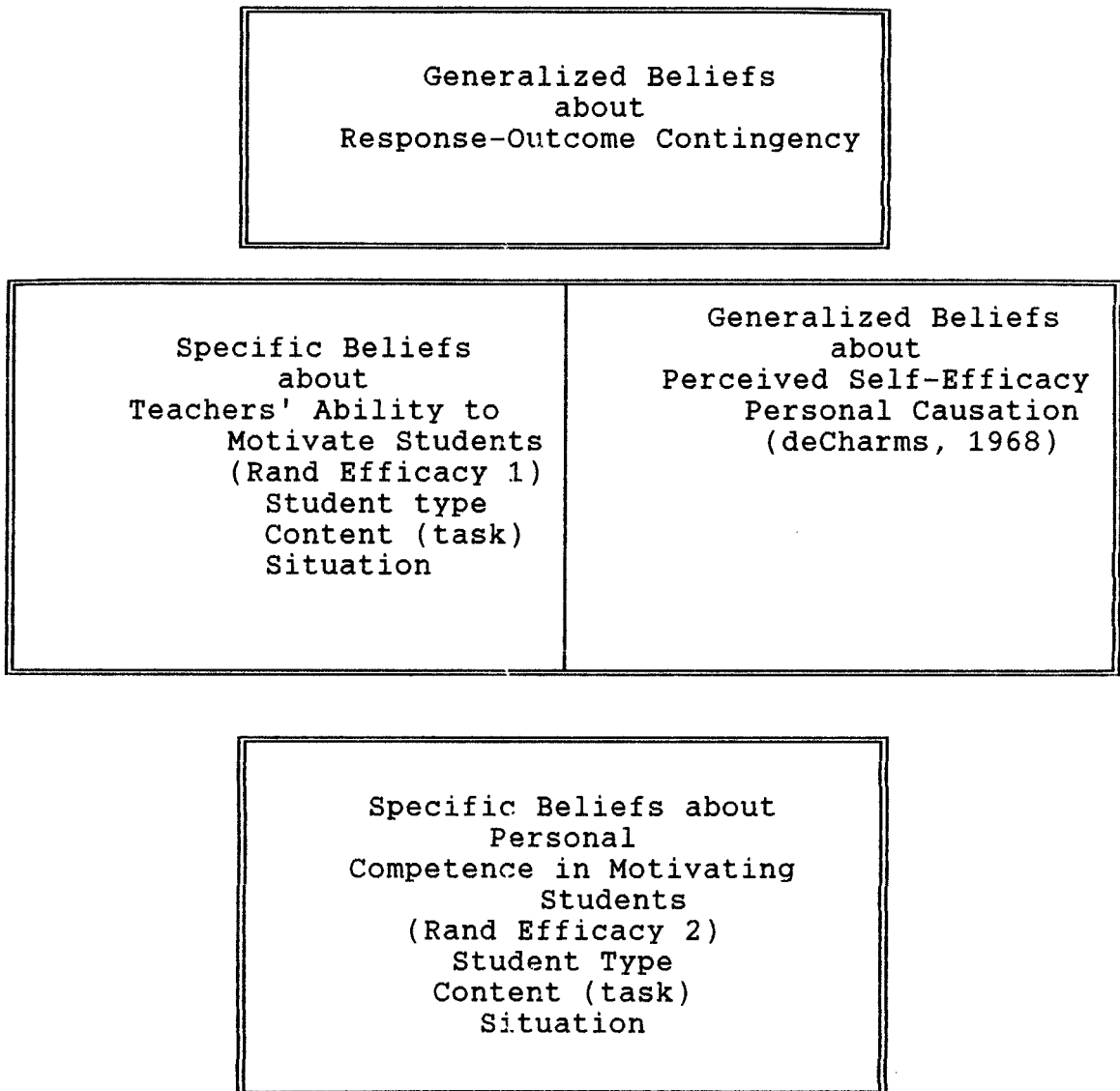


Denham and Michael, 1981, p. 40.

To better understand the sense of efficacy as a multi-dimensional construct, Ashton's (Ashton, Webb & Doda, 1982, p.12) model was addressed (Figure 2, p.15). This shows the interactive aspects of generalized beliefs about response-outcome contingencies, to generalized beliefs about perceived self-efficacy, to specific beliefs about the teachers' ability to motivate students, to specific beliefs about personal competence to motivate students.

Figure 2

A Model for Teachers' Sense of Efficacy
as a
Multi-Dimensional Construct



Ashton, Webb & Doda, 1982, p.12

To organize the attributional causality construct, Weiner's model (1986, p.240) was used which relates causal ascriptions (ability, effort, task difficulty, and luck) to causal dimensions (locus, control, and stability) and relates these to psychological (hopelessness/helplessness) and behavioral consequences (Figure 3, p.17).

Figure 3
Model for Antecedent-Ascription-
Consequence-Interaction

O U T C O M E S	C A U S A L	A N T E C E D E N T S	C A U S A L	A S C R I P T I O N S	C A U S A L	D I M E N S I O N S	P S Y C H O L O G I C A L	C O N S E Q U E N C E S	B E H A V I O R A L	C O N S E Q U E N C E S
			ABILITY EFFORT STRATEGY TASK LUCK		LOCUS STABILITY CONTROL		COGNITIVE: EXPECTANCY AFFECTIVE: PRIDE/ HOPELESS			

Weiner, 1986, p. 240

In an attempt to better understand the construct of teacher efficacy, this paper examined the correlates of teacher efficacy. Since teachers scoring high on efficacy scales have shown differences in behavior from those scoring low on efficacy scales, there is a need to examine these correlates as they relate to deficits in efficacy/expectancy and attributional style. These assumptions are held by Ashton & Webb (1986, p.136-137) and Dembo & Gibson (1985, p. 176).

Hypotheses Guiding This Research

This study attempted to relate teacher-self-efficacy levels to causal ascriptions of achievement - ability, effort, task difficulty, and luck, and to further relate levels of self-efficacy to attributional styles of hopelessness/helplessness.

- Hypothesis I. Efficacy and expectancy are positively correlated with ability and effort and negatively correlated with task difficulty, luck, and helplessness/hopelessness.
- Hypothesis II. High levels of efficacy are correlated positively with ability and effort.
- Hypothesis III. High levels of efficacy are correlated negatively with the attributional style of helplessness/hopelessness.
- Hypothesis IV. The causal attributes of ability and effort account for a significant amount of variance in the dependent variables of efficacy and expectancy.

CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature was undertaken to investigate the variable of the teacher efficacy/ expectancy construct in relation to conditions of attributional causality as they relate to the teaching context. The areas of self-efficacy, locus of control, and attributional styles are viewed as complimentary interacting concepts.

Self-Efficacy Construct

Bandura (1986, p.393-394) maintains that perceptions are the keys to behavior. It is posited that knowing the key characteristics of what a good teacher is and does, does not necessarily make for effective teaching. How the teacher personally and individually perceives, reacts to, and arranges context determines the behaviors s/he uses and the results obtained by means of those behaviors.

Central to the preceding is the individual's perception that s/he can perform successfully in a given context. The efficacy-expectancy construct as first developed by Albert

Bandura in his social cognitive theory addresses individual perceptions affecting behavior. Bandura (1986, p.390-391) defines self-efficacy as a judgment of personal capability to perform a task at certain levels. It is concerned not so much with the skills one has but with the judgments of what can be done with the skills. The corollary of this definition is outcome expectation, which is a judgment of the outcome of a given behavior. Bandura states that self-referent thought mediates this relationship between knowledge and action. How a person judges his/her capability and perceptions of self-efficacy affects motivation and behavior.

Differences in perception create differences in behavior (Bandura, 1986, p.393). The efficacious attribute the causes of their failures to factors that support a success orientation and that are controllable and alterable such as effort. The non-efficacious view success as either beyond their control or not within their ability to accomplish. Therefore, they attribute failures to lack of ability (1986, p.395). The efficacious, according to Bandura (1986, p.423), approach potentially-threatening tasks non-anxiously and experience little in the way of stress reactions in taxing situations. Their orientation is self-assured even in difficult situations. Bandura concludes that self-efficacy perceptions operate as cognitive mediators of performance (Bandura, 1986, p.423).

Bandura sees self-efficacy as predicting performance (1986, p.398,424). Beliefs about one's ability function as one set of determinants of behavior. He describes those who are efficacious as being active problem solvers who persevere: the stronger the beliefs of self-efficacy are the more vigorous and persistent the effort will be (Bandura,1986, p.393,424).

According to Bandura (1986,p.391,394,395), the non-efficacious shy away from difficult tasks, slacken their efforts, give up readily in the face of difficulties, dwell on personal deficiencies, detract attention from task demands, lower their aspirations, and suffer much anxiety and distress. Research shows that those who regard themselves as highly efficacious act, think, and feel differently from those who perceive themselves as non-efficacious (Bandura, 1986, p.349,394,425f).

Bandura (1986, p.395) states that levels of perceived self-efficacy affect motivation. The stronger the perceived self-efficacy the more likely the person is to select challenging tasks, work longer at them, and perform them more successfully (1986, p.397). Perceived self-efficacy influences people to focus their attention (1986, p.401). Self-efficacy is concerned with one's judgment of one's capabilities (1986, p.410). Bandura sees these judgments resulting from diverse sources of information conveyed through social evaluation (1986, p.404,411). Efficacy

varies according to situations. Bandura calls efficacy a microanalytical measure of personality as opposed to a global general orientation: self-efficacy is situation specific (1986, p.396).

Bandura (1986, p.416,423) states that highly efficacious teachers can enhance the cognitive development of children. It, therefore, would follow that by examining these behaviors of self-efficacy a better understanding of teacher effectiveness would ensue. He goes on to state that the self-perceptions of efficacy operate as cognitive mediators of performance. It would follow that by examining these perceptions, insight into the interrelatedness of the construct would result. Denham & Michael (1981, p.40), also, support this in their model.

People are influenced more by how they read their performance than by the outcomes per se (Bandura, 1986, p.411,424). It is, therefore, not uncommon for perceived self-efficacy to predict future behavior better than past performance. Thus, perceptions are keys to behaviors as Bandura maintains.

Bandura (1986, p.394-395) states that perceived self-efficacy shapes causal thinking. When seeking solutions to difficult problems, those who perceive themselves as highly efficacious are inclined to attribute their failures to insufficient effort, whereas those of comparable skill but lower perceived self-efficacy ascribe their failures to

deficient ability.

Bandura (1986, p.349,413) maintains that personal experiences increase self-efficacy expectations only when the individual attributes success to internal factors and not to luck or chance. Bandura (1986, p.349) also stated that the person's attribution of success to chance or skill determines the extent to which the experiences increase or decrease levels of self-efficacy.

Bandura (1986, p.390-391) postulates that self-referent thought mediates between knowledge and action: how people judge their capabilities and self-perception of efficacy affects their motivation. Bandura, further states that self-efficacy is a significant determinant of performance and operates independently of underlying skills. Judgments of capabilities influence thought patterns, emotions, and reactions (1986, p.394). This is carried through in the Denham and Michael model (1981, p.40) which determines efficacy to have two components: one is the cognitive and the second is the affective.

Perceived self-efficacy influences the types of causal attributions people make for their performances according to Bandura (1986, p. 402). He, also, hypothesizes that perceived self-efficacy shapes causal thinking (1986, p.394-395). These findings of Bandura's all have significant impact when considered in the light of teacher efficacy and performance in classrooms.

Teaching Efficacy Construct

As early as 1976 Brophy and Evertson (1976, p.10-15,39f) sought correlates of teacher effectiveness with teacher attitudes and beliefs. Brophy and Evertson determined that feelings of efficacy could discriminate between more effective teachers and less effective teachers. They advocated using the teacher as the unit of analysis to identify effective teaching behaviors and relate them to student outcomes.

Brophy and Evertson (1976, p.39f) looked at the presage variables that the teacher brings to the classroom as opposed to the process variables which are the observed student-teacher interactions. They found that teacher differences in locus of control showed up in teachers' attitudes and also in teachers' behaviors in the classroom. They found that teacher perceptions were a key to teacher effectiveness. A teacher who believes that students will learn and that s/he can teach them is more likely to be an effective teacher.

In teacher efficacy investigations, the Rand Corporation study was considered a breakthrough. The study suggested that the teachers' sense of efficacy is a component of teacher motivation and is associated with student achievement (Berman et al. 1977, p.158 f).

The Rand Corporation under the sponsorship of the U.S.

Office of Education examined federally funded programs designed to introduce and spread innovative practices in the public schools. The study looked at the type and extent of teacher change precipitated by innovation. The study found that three teacher attributes significantly affected project outcomes: these teacher variables were years of teaching experience, verbal ability, and teacher's sense of efficacy (Berman et al. 1977, p.158f).

This efficacy was defined as the teachers' belief that h/she could help even the most difficult or unmotivated students. The efficacy variable showed strong positive effects on all project outcomes including improved student performance. Teacher efficacy then acts as an important variable when accounting for differences in teacher effectiveness. Thus, the construct has corroboration in both basic and applied research. (Berman & others, 1978, p. 32).

A main source of teaching efficacy data has come from the research of Ashton and Webb (1986, p.136-143) who used teaching efficacy as a research construct in relation to student achievement. Student achievement was measured on the Metropolitan Achievement Tests in high school basic skills classes in language and math. Their work published in 1986 maintains that teachers' sense of efficacy is a construct needed to understand teacher motivation and behavior (Ashton, Webb & Doda, 1982, p.24). Validation of

this construct was supported Gibson & Dembo (1984, p.579).

Ashton and Webb (1986, p.154-157) see the construct of self-efficacy as an organizing focus for developing a comprehensive theory of motivation. They state that a number of theories including attribution theory (Weiner), personal causation (deCharms), expectancy theory (Dusek & Joseph), and intrinsic motivation (Deci) share similar constructs and processes.

Ashton (1984a, p.6-7) stated that a teachers' beliefs might illustrate how teachers come to differ on the efficacy measure. She stated that a teacher who was convinced that Arthur Jensen's analysis of ability differences in students was accurate would tend to have a low sense of teaching efficacy. While a teacher convinced that Benjamin Bloom's position on student learning ability was correct would have a high sense of efficacy. She goes on to state that it is likely that the most appropriate teacher change strategy will depend on the origin of the sense of efficacy. A teacher convinced of her own ability to teach but doubtful of her students' ability to learn, would require a different intervention than a teacher who is convinced of her students' ability to learn but doubtful of her own competence as a teacher. She cautions on keeping the two Rand items independent in the research. This fact will have implications when assessing self-efficacy regarding causality and such factors as ability, effort, task

difficulty, and luck.

Ashton, Webb & Doda (1982, p.4) found that the extent to which teachers believe that they can affect student learning is an important and powerful variable. They further state (1982, p.11-16) that teachers differ in efficacy attitudes and that these differences are reflected in teachers' behavior and student performance. Ashton and Webb state that efficacy acts as a mediating cognitive process that contributes to the relationships between teachers' behavior and student achievement. This has been corroborated by Denham and Michael (1981, p.40-41).

Ashton & Webb (1986, p.152) list three dimensions which affect efficacy expectations. The dimensions are stability, locus, and control. Stability in reference to causality refers to whether the cause of failure is fixed or fluctuating such as ability or effort. Locus refers to the cause of failure being perceived as being internal or external. Control refers to the cause of failure being within the teachers' control or uncontrollable by the teacher.

Ashton and Webb (1986, p.3,140) divide teacher sense of efficacy into two independent dimensions. One is the sense of teaching efficacy: Is the student teachable (expectancy)? (Does teaching make a difference?) The other is the sense of personal teaching efficacy: Am I able to teach (competency)? Teachers integrate these two dimensions into

a course of action when they teach. The integration is dependent upon whether the teacher has a high or low sense of efficacy. They use the integrating construct as a mediator between a teachers' efficacy about teaching specific students and the teachers' classroom interactions with those students. Ashton and Webb consider the self-efficacy construct to be significant because the teacher effectiveness research does not examine teachers's subjective perceptions. The relationship between thought and action becomes a critical issue in research on teaching according to Ashton and Webb.

Gibson and Dembo (1984, p.579) did a study validating the teacher efficacy construct. They found that the teachers' belief in his/her ability to instruct students accounted for individual differences in effectiveness. This corroborated the work of Armor, Berman and McLaughlin, Brookover, and Brophy and Evertson. They found that the teaching-efficacy construct supported Bandura's personal efficacy dimension in his research. This belief that the teacher can teach(competency) and that the student can learn (expectancy) corroborated the work of Armor et al. 1976, Bandura, 1977a&b, Berman & McLaughlin, 1977, Brookover, 1978, and Brophy & Evertson, 1976.

According to Dembo and Gibson (1985, p.176-177) highly efficacious teachers showed the same characteristics of effective teachers found in the literature. They also found

that there were behavioral differences between high and low rated efficacious teachers, differences which yielded differences in student achievement, classroom organization, instruction, and teacher feedback. Teachers rated low in efficacy spent fifty percent more time in small group work, were quick to give a student an answer to a question, ask another student, or allow another student to call out the answer. Teachers rated high in efficacy spent only twenty-eight percent of their time in small-group work (preferred whole-group work), spent more time monitoring and checking seat work, and leading a student to answers through questioning.

Ashton (1984a, p.13-14) investigated the teacher sense of efficacy construct as a self versus norm referenced concept and found it to be norm referenced and determined that teachers appear to evaluate their effectiveness of performance in comparison to the performance of other teachers. Efficacy appears to need attention to context: the social component of efficacy, therefore, must be taken into consideration. This reiterates Bandura's (1977b, p. 83) holding that efficacy must be regarded as situation specific. This also coincides with Rotter's (1982, p.4f) position that learning is social and controlled by other people.

Locus of Control Construct

Although locus of control was not measured as such in this research, it needed to be considered because of its integral relationship to efficacy and attribution. One aspect of attribution theory is control which deals with the origins of the influences in our lives.

The locus of control construct deals with perceptions of contingencies between action and outcomes. It is a critical construct in the understanding and development of causal attribution because it influences the underlying concept of attribution theory. Heider (1958, p.89f) originated the attributional approach by theorizing that action depends on two sets of conditions: those within the individual and those outside the individual. Rotter (1982, p.171f) developed this concept by determining causality to have an external and internal dimension. Weiner (1986, p.45-46) elaborated on causality by adding the dimension of stability of cause which means that some internal causes fluctuate and some are constant.

Rotter's (1982, p.171f,205-208,265f) locus of control construct is pertinent. He maintains that the effects of rewards or reinforcement are contingent upon whether the individual perceives the reward as dependent on his own behavior or independent of it. When an individual sees a reward as not entirely contingent upon his own action then

he perceives a causal relationship between his own behavior and the reward as due to luck, chance, or fate. This is the ground work theory from which both the constructs of efficacy and attribution theory have their origin. Level of achievement is greatly influenced by the degree to which we feel in control of a situation.

Rotter (1982, p.171f, 205, 208f, 265f), further, goes on to express the idea that locus of control operates along a continuum as a generalized expectancy. An internally controlled person perceives success as being brought about by his own efforts. An externally defined person defines success as due to fate, luck, or powerful others.

In the literature, self-efficacy has been measured using Rotter's locus of control concept. Rotter's social learning theory with the locus of control aspect is relevant to efficacy research. Rotter (1982, p.313f) maintains that how an event is perceived determines behavior. How a person views the causal relationship between his own behavior and the reward determines what his behavior will be in a given situation. Individual differences exist in behavior to the degree an individual attributes personal control over rewards. A person who attributes rewards to his own personal control is said to have an internal locus of control. A person who attributes rewards or events as being not entirely contingent upon his own actions but contingent upon luck, chance, fate, or powerful others is defined as

having an external locus of control. When an event is interpreted through external locus of control, then expectancies and outcomes become less predictable and hence could affect predictions of efficacy.

The literature (Bandura, 1986, p.395,402; Weiner 1986, p.229f) also, associates high levels of efficacy with internal locus of control. Those having an internal locus of control are found to attribute their successes to variable causes such as effort. Individuals having an external locus of control attribute their successes to fixed causes such as ability defined as unalterable. Provision must be made for definition variance: the terms of effort and ability are subject to definition as fixed and variable (Hillman, 1986, p.7).

DeCharms (1972, p.95f) has another perspective on the locus of causality variable. He views the construct as personal causation. Personal causation according to deCharms is intentional behavior intended to produce a change in the environment when an individual is motivated from within. When intrinsically motivated the individual becomes the locus of causality. When the impetus to behavior is external, an outside source, an external locus of causality exists. The personal causation focuses on the self-perception as subject or object of action. Lefcourt (1981, p.344, 1982, p.156) comments that the similarities are more salient than are the differences between the two

constructs.

Lefcourt's (1982, p.183f,186) analysis of the locus of control construct, although valuable, is put in perspective with his summation of the research into the construct: locus of control does not account for a substantial portion of the variance in most situations. Individuals are not dichotomously internal or external. If the intention is to use the perception of control as a predictor, then assessment instruments need to be designed around the criterion of interest (situation specific). There are confounding elements in the term control, contingency would be closer to the meaning according to Lefcourt.

Lefcourt (1982, p.186) goes on to say that perception of control is a process. "It is the exercise of an expectancy regarding causation: internal and external describe common tendencies to expect events to be contingent or not contingent upon action."

Lefcourt further states that perceived contingency is not identical to perceived efficacy, but adds that it is doubtful that efficacy would exist without perceived contingencies.

Thompson (1981, p.89f) has extracted some unifying themes for the many types and definitions of control according to Lefcourt (1982, p.188). The effects of control derive from its limiting of the negative experiences. In essence it is the belief that one is ultimately in control

of the aversive forces in the environment.

Gibson and Dembo (1984, p.569,581-582) and Hillman (1986, p.7,43-48) as well as other efficacy researchers reflect Rotter's social learning theory with its locus of control orientation as a basis of development of their teacher efficacy measures. In order to assess perceived control, other models have been developed. Weiner (1986, p. 46-47) has a two factor model of attributions for success and failure: it includes factors of stability and instability as well as internal and external dimensions. Each cell in the Weiner model represents a distinct type of attribution. However, the linear model of Rotter with its forced choice format is still the most popular format in the literature in education research.

Locus of control studies are seen as a major variable in behavior theory. Locus of control perceptions are concerned with outcomes. Pertinent here is the fact of whether or not a teacher perceives his/her actions as influencing student outcomes. Studies done on locus of control show it pertains to the teachers' sense of efficacy (Rose & Medway, 1981b, p.379-380).

Bandura (1986, p.395,402) maintains that personal experiences increase self-efficacy expectations only when the individual attributes causation to internal factors and not to luck or chance. Bandura states that the person's attribution of success to chance or skill determines the

extent to which the experiences increase or decrease levels of self-efficacy. Weiner (1986,p.181-182) also addresses the internal/external factors of attributions and the effects of the ability and effort attributions leading to helplessness/hopelessness profiles.

In the literature high levels of efficacy are associated with internal locus of control. Those with internal locus of control attribute their success to a cause such as ability or effort and behave differently from people having an external locus of control and attributing their success to a cause such as luck (Bandura, 1986, p.349,394-395).

Hillman (1986, p.6-7) states that although some inconsistencies have existed with Rotter's unidimensional view of locus of control, it is felt that with the introduction of attribution theory which includes stability of cause as fixed or variable an important dimension has been added to the locus construct for predictions.

Brophy and Evertson (1976, p.41-42), in their studies with the Texas Teacher Effectiveness Project, found that teacher differences in locus of control differentiated attitudinal and behavioral differences in the classroom. Teachers with an internal locus of control designed and maintained a learning environment in the classroom and were the most successful in obtaining student learning gains. Externally controlled teachers when faced with failure blame

others, the cultural milieu, poor parent support, inadequate teaching facilities, and poor student ability. In contrast teachers exhibiting internal locus of control redouble their instructional efforts in the face of failure, modify, and take personal responsibility for outcomes. Tracz and Gibson (1986, p.5) corroborated these findings in 1986. Effort must be seen as a causal determinant of success.

Lefcourt (1981, p.162) does state that if the locus of control construct is really multidimensional, it is of the utmost importance that sub-factors be clearly identified. Otherwise, the nature of the construct and the predictions based upon them will be equivocal. In addition both behavioral and personality correlates of the construct must be determined separately for each factor or the significance of relationships will be ambiguous. This is why Lefcourt states that much of the research done to date with the Rotter scale is difficult to interpret. There is no certainty which component is responsible for any obtained relationships.

In locus of control, expectancies are assessed a priori. Beliefs about causation, however, are assessed post hoc. The result according to Lefcourt (1981, p.70) is that locus of control continues to be assessed as an expectancy-based variable, and situationally-assessed beliefs about causation are susceptible to interpretations involving the subject's motivation to display certain beliefs (self-

serving attributions). Weiner (1986, p.51,111-112) corroborates this concern when he states that causal dimensions are derived from attribution theorists and not from subjects. There can be exceptions to both statements. This necessitates exact definition and precise delineation of categories (Lefcourt, 1981, p.70).

Ickes and Layden (1978, p.119f) found that responses to questionnaires assessing causation beliefs can predict subsequent behaviors. Beliefs about causation refer to judgements made by individuals after they have engaged in a behavior after the outcome is known. The predictability of assessing beliefs about causation reflective of behavior is supported by Bandura (1986, p.6) when he states that as a result of cognitive processing people's rating of their own behaviors yield consistencies even though the behaviors may vary. He concludes that behavior is more consistent with verbal reports than the direct assessment of the behavior itself.

Ickes and Layden (1978, p.125-126), also, in their review of the literature determine the variable of internal/external locus of control not to be synonymous with the variable of internal/external locus of causality. They feel that both the theoretical and operational definitions of the two concepts differ in several important respects - therefore, the results obtained in one area are not clearly applicable to the other. The reasoning is as follows: locus

of control often confounds locus of control with locus of causality by using (1) items that imply causality but no control of an event; (2) items that imply control but no causality of an event; or (3) items that imply both. They find that the confusion between control and causality is particularly evident in the research that deals with negative events. It is not clear whether internal control of negative outcomes means that the subjects caused the negative event or whether it means that a negative outcome can be escaped or avoided, therefore, controlled. Also some items are written in the first person- others are written in the third person- the assumption is that whatever subjects see as the locus of control for other people's outcomes will also be seen as a locus of control of their own. Ickes and Layden state that, therefore, it is impossible to compare and integrate locus of control and locus of causality. Weiner (1986, p.46) addresses this issue when he developed his model with causality as a multidimensional construct.

The conclusion is that careful attention to definition and categories is necessary in the instrumentation for investigation.

Attribution Theory

Weiner (1986, p.44f) has recast locus of control in an attribution mold. Weiner's derived theory of attribution of

achievement-motivation guides most research in the achievement dimension and will be the model used in this research. Attribution theory is concerned with the inferences we make to explain events. Attribution theory provides a model for the assignment of causes for behaviors. It provides a means by which we attempt to understand why behaviors occur. This paper explored the attribution process as it applies to self-efficacy from the position of conclusions drawn from behaviors (reported beliefs) rather than the acquisition process of attributions.

Attribution theory is defined as the study of perceived causality. Heider (1958, p.112-113) is widely accepted as the founder of the theory. He focused on attribution of responsibility to persons and incidentally introduced the notion of attributing events to causes. The latter concept is the pertinent concept in this paper.

Jones and Davis in 1965 (Jaspers, Fincham, & Hewstone, 1983, p.39) were historically the second major influence in attribution theory. Following Heider, they developed the idea of attribution of intentions and disposition. They reasoned that human behavior can be explained by the attribution of stable and relatively invariant dispositions within the individual. They dealt with making different rules for different attributions. Their model dealt with the notion of causal connections.

A process-oriented attribution theory was developed by

Kelley. He dealt explicitly with attributing events (behaviors) to their causes. He developed a very abstract model of the process by which attributions are made. His theory is an interactional explanation between cause and behaviors (Jaspers et al. 1983,p.39).

The model of attribution theory pertinent to this research is the cognitive model of Weiner. Weiner (1986, p.240) has developed an achievement-motivation model with causal attributions seen as cognitive mediators between outcome and achievement behavior. Causal attributions in the Weiner model may be viewed as motivating factors before the behavior (prospectively) and evaluative factors after the behavior (retrospectively). Jaspers (1983, p.196) corroborates this orientation of two perspectives of defining behavior.

The Weiner (1986, p.160f) model investigates causal attributions. It points out immediate practical consequences of cognition. It allows for the distinction to be made between advantageous and disadvantageous attributions. Weiner's model takes account of the individual's active effort to make sense of all the information that s/he receives from the outside world. The model points out immediate consequences of cognitions.

Weiner (1986, p.44f) considers the causes of success or failure to fall along a three-dimensional taxonomy. These three attributional dimensions affect efficacy expectations.

Weiner's first causal dimension is locus which refers to the internal-external dimension. Weiner makes it clear that this is a locus of causality to distinguish it from Rotter's definition of locus of control. Weiner feels that Rotter's definition of locus of control ignores the stability aspect of causality and, thereby, is deficient in explanation.

Locus of causality can be external or internal: ability and effort are considered internal factors; task difficulty and luck are considered external factors. The second causal dimension - stability - refers to whether the cause of an event is perceived as being constant or fluctuating. The third causal dimension is controllability: this refers to whether the cause is perceived to be within the control of the observer or beyond his control.

Weiner (1986, p.46) lists the dominant causes in achievement-related contexts as being ability, effort, task difficulty, and luck. Weiner's taxonomy expands on Rotter's (1982, p.183-210) dichotomy of external/internal factors, thus, adding depth to Rotter's definition of causality of outcomes. Weiner's taxonomy is said to allow for more sophisticated comparisons between causes, since there is not just one dimension of causality. Weiner (1986, p.51) does mention that a limitation of this system is that the causal dimension does come from the attribution theorist and not from the subjects. This point is well made. However, to enable the theory to function, the taxonomy does provide a

workable classification. Weiner's research also supports his three dimensions of perceived causality.

Weiner (1986, p.240) proposes that the causal ascriptions of achievement relating to the three dimensions of causality interact with the causal dimensions of locus, stability, and controllability to result in psychological consequences both cognitive and affective (Figure 1,p.16). The cognitive consequences are expectancy of success resulting in the affective consequence of either hopefulness or hopelessness. The resultant behavioral consequences then are either striving or giving up.

Attribution theory according to Weiner (1986, p.46f) deals with the perceived causes of success or failure. Weiner categorized causes he thought were most dominant in achievement-related contexts: these were ability, effort, task difficulty, and luck. He represents four causes within three dimensions (locus, stability, and control). (See Figure 3, p.17) Weiner's model differs from Rotter's (1982, p.77, 171-183) model in that Rotter defines internal control as the perception that rewards are determined by ability: in external control rewards are determined by luck or chance. In Weiner, ability and luck differ not only in the point of locus that is internal and external but also in stability. In using the Weiner model two additional dimensions of causality are added, whereas, Rotter uses only internal and external factors. Weiner's model is pertinent in

achievement related contexts.

Weiner (1986, p.46-47) goes on to say that qualifications resulted in the need for a model in which ability would not be affected by learning and effort and could be judged as a more stable condition.

Weiner (1986, p.46-47,84-85) considers Rotter's locus of control to be unidimensional with its internal-external linear model and to create confusion due to its inability to explain the many variables of causality. Weiner expanded on the internal-external model to avoid confusion created by the lack of explanation for multivariate concepts. To avoid confusion resulting from the control versus causality issue, Weiner discusses locus of causality rather than locus of control. Weiner maintains that Rotter gives insufficient attention to the richness of causal explanation.

Lefcourt (1981, p.53) describes Rotter's locus of control as dichotomous and states that dichotomy is an oversimplification. Multidimensional scales were developed because of empirical and theoretical inconsistencies in the unidimensional approach.

Lefcourt (1981, p.53) states that externality is not always bad. Therefore, the problem seems to be situation specific and a definition of terms is a criterion which must be decided upon in advance.

Denham and Michael (1981, p.41f) state that causal attributions affect a sense of efficacy and have both a

cognitive and affective component. They go on to state that perceptions of causality or the reasons given for the occurrence of a particular event affect the sense of efficacy. This attribution variable is related to all antecedents of the sense of efficacy. Denham and Michael maintain that causal attributions or explanations mediate the effects of all other antecedent variables. There is a difference as to whether or not the attributions are to external causes or to internal causes.

Denham and Michael (1981, p.42-44) maintain that causal attributions influence a teachers' sense of efficacy. There is evidence that teachers with high efficacy scores have different attributional styles, different locus of control perceptions, and different attitudes regarding educational practices. Denham and Michael view causal attribution for performance outcomes as an important antecedent condition for teacher efficacy. They see causal attributions as affecting the sense of efficacy. They state that the attribution variable is related to all antecedents of the sense of efficacy.

Attribution causality studies are seen as a major variable in behavior theory. Attributional perceptions are concerned with outcomes. Pertinent here is the fact of whether or not a teacher perceives his/her actions as influencing student outcomes. Also, pertinent is the interrelationship of the self-efficacy construct,

attributions of causality, and motivation and achievement.

Attributions a person makes about success and failure have an influence on achievement according to Weiner (1985a, p.549f). There are four dominant causal ascriptions for success: they are ability, effort, task difficulty, and luck. Rotter (1982, p.208f) also states that level of achievement is greatly influenced by the degree to which the individual feels in control of a situation.

Learned Helplessness

Seligman (1975, p.45f) states that learned helplessness is caused by learning that responding is independent of reinforcement: action is futile. An individual who can not control the circumstances he is confronted with is subject to conditions of helplessness. Conditions of helplessness need to be countered with control of outcomes. Seligman (1975, p.106) details the correlates of learned helplessness as passivity and inactivity. The remediation is control of outcomes. Seligman defines learned helplessness as a disturbance of motivation, cognition, and emotion.

Research on learned helplessness focuses on attributions as indicators of beliefs about control over outcomes. This means that attributions of failure to fixed factors such as ability are associated with failure. Attributions to variable factors such as lack of effort are

not connected to learned helplessness. How we interpret events makes a difference in the actions that we take (Diener & Dweck, 1980, p.940f).

Seligman (Abramson, Seligman, Teasdale, 1978, p.53-57) bases his theory of learned helplessness on attribution theory. When an individual perceives a non-contingency, s/he attributes helplessness to a cause. The cause can be stable or unstable, global or specific, and internal or external. The attribution which the person chooses influences whether expectation of future helplessness will be chronic or acute, broad or narrow, and whether the helplessness will lower self-esteem or not.

Seligman (Abramson et al. p.52f; Petersen & Semmel, 1982, p.288) distinguishes between universal and personal helplessness. Personal helplessness deals with situations in which an individual believes that s/he can not solve a problem. Universal helplessness refers to situations in which individuals believe neither they nor others can solve the problem. Seligman relates this back to Bandura's theory and the distinction between efficacy and outcome expectancy. Personal helplessness is a low efficacy expectation with a high outcome expectation: the individual can not produce a possible outcome. Universal helplessness deals with low outcome expectation: the outcome is not possible. Weiner (1986, p.110,154) also examined emotions which related to the causal structure. One of the emotions he examined was

hopelessness.

Learned helplessness also involves external locus of control of helplessness and internal locus of control of helplessness. In universal helplessness external attributions are given to failure. Personal helplessness entails internal attributions for failure. Helpless individuals view skill tasks as skill tasks and not as chance: the task is solvable, but they personally do not have the skills to solve the task (Abramson et al. 1978, p.53-55).

Abramson (1978, p.54-59) relates learned helplessness to Weiner's attribution theory. Success and failure in Weiner's theory refers to outcomes. In this model learned helplessness does not include all cases of uncontrollability. From the strict attributional viewpoint, then, failure and uncontrollability are not synonymous. Failure is a subset of all bad outcomes. Uncontrollability is concerned with more than just failure: success received independently of responding can also lead to helplessness.

Learned helplessness (Bandura, 1977b, p.78f, 138f) is connected to low self-esteem. If one does not view outcomes as contingent on one's own response, this, then, becomes a condition for motivation and cognitive deficits. In Bandura's terms individuals give up trying because they lack efficacy in achieving the desired outcomes.

Petersen and Semmel (1982, p.288) deal with the

attributional dimension of learned helplessness along three dimensions of attributional style of helplessness: they are internal versus external; stable versus unstable; and global versus specific.

The internal/external distinction is explained as internal if the cause is seen as something about the person and external if the cause is seen as something in the environment. Global attributions are defined as occurring in a broad range of situations. If the range of occurrence is narrow, it is termed specific. Stable-unstable attributions refer to transiency of factors. Stable factors are long-lived or recurrent. Unstable factors are short-lived or intermittent (Petersen & Seligman, 1984, p.348-349).

Abramson et al. (1978, p.56) explain the internal versus external influence as follows. If a negative outcome occurs, it can be attributed to (1) lack of ability (an internal stable factor), (2) lack of effort (an internal stable factor), (3) the task being too difficult (an external-stable factor), or (4) lack of luck (an external-unstable factor). These dimensions provide a means for explaining styles of responding to outcomes/efficacy and define attributional styles.

Low efficacy and learned helplessness are related concepts. Ashton, Webb, and Doda (1982, p.11-15) relate teacher's sense of efficacy as a multidimensional construct

to learned helplessness. They site Bandura who stipulates that through personal experiences individuals develop a generalized expectancy between action and outcomes. Teachers enter the profession with individual differences in their generalized expectancy and also in their personal expectancies regarding their own ability to influence outcomes.

Ashton and Webb (1986, p.6f) cite sense of efficacy as a critical construct in understanding motivation because it influences behavior, the amount of effort expended, and the degree of persistence that will be maintained in the face of problems. They use Seligman's learned helplessness theory to explain the various dimensions on the teachers' sense of efficacy on teacher-behavior.

A low sense of efficacy could result from a teacher's belief that low-achieving students from poor environments cannot be motivated. This would be universal helplessness in Seligman's terms: no teacher is capable of motivating the particular students. Ashton, Webb and Doda (1982, p.13-15) state that teachers with a sense of universal helplessness exert less effort in motivating low achievers. They see all effort as futile. These teachers would be resistant to learning from experiences with these students that contradict their basic belief (cognitive deficit): they would, however, maintain their self-esteem because they would feel no responsibility. Their belief is that no one

else could accomplish this task.

Contrasted to the above is the teacher with a personal sense of helplessness or inefficacy. This teacher would believe that a low-achieving student could be motivated, but that they personally could not motivate the student. This teacher would experience the motivational and cognitive deficits of a sense of universal helplessness. Ashton, Webb and Doda (1982, p.14-15) contrasted this to a low-efficacy teacher with a universal sense of helplessness, this teacher will experience little stress due to low expectations of being unable to influence student performance.

Therefore, there are distinct differences between a low sense of efficacy attributable to belief in teachers' inability to motivate students in contrast to a belief in one's personal ability to motivate students. Ashton, Webb and Doda, 1982, p.15) state that efforts to influence teachers' sense of efficacy must be based on an analysis of the origin of the inefficacy. If it is attributable to the teacher's feelings of personal incompetence, a different strategy would be required from the case in which a sense of inefficacy is attributable to ideological beliefs about the modifiability of various students.

Ashton, Webb and Doda (1982, p.15) delineate low sense of efficacy along two dimensions: one is a teachers' inability to motivate students; the other is the personal sense of incompetence in motivating. The differences are

aligned according to cognitive, motivational, and affective deficits.

For a teacher with negative expectations due to universal helplessness, the cognitive deficit would include a difficulty in learning that students can be motivated by teachers. The motivational deficit in this category would be passivity and little effort to motivate students. There would not be an affective deficit here because of little stress from lack of feelings of responsibility (Ashton, Webb and Doda, 1982, p.14-15).

Teacher's personal sense of incompetence in motivating students involves negative expectations due to personal helplessness. The cognitive deficit would include difficulty in learning that one is capable of motivating students. The motivational deficit would include passivity and little effort exerted to motivate students. The affective deficit would include high stress, depression, and guilt or shame (Ashton, Webb and Doda, 1982, p.14-15).

In order to remediate and change teacher levels of inefficacy and learned helplessness, more information is needed on attributional factors contributing to inefficacy and learned helplessness. A better understanding of the concepts would hopefully provide ways to enhance efficacy and remediate inefficacy.

The goal of the present study is to seek attributional evidence of efficacy as a means to correct patterns of low-

efficacy functioning.

Focus

The direction of this research ultimately was aimed at the problem of low-achieving students. As Midgley, Feldlaufer and Eccles (1989, p. 255-256) maintain, teachers' sense of efficacy would have a more powerful impact on low-achieving students for two reasons: low-achieving students are more extrinsically motivated than high achieving students, therefore, needing more positive feedback from instructors. This is corroborated by the Brophy and Evertson studies (1976, p.43-47, 62-69, 126-127) . Low-achieving students are more vulnerable to beliefs and attitudes of their teachers. Another reason postulated by Eccles and Wigfield (1985, p. 201, 207, 208) is that if a teacher does not feel efficacious s/he may in fact communicate low expectations to low-achieving students. Therefore, the efficacy construct is a more important variable when dealing with at-risk or low-achieving population or in any difficult context. From the standpoint of expectancy a teacher would also need support (Brophy & Evertson, 1976, p.72-89).

CHAPTER III

METHODOLOGY

Introduction

Ashton and Webb (1986, p.157-158) encourage the investigation of teacher's attributions for success and failure with the intent of finding strategies to increase efficacy. They acknowledge the complexity of the process, but encourage further investigation.

To refine the understanding of the teacher efficacy construct this research sought to discover relationships between the teachers' sense of efficacy, causal attributions, and attributional style.

Theoretical concerns covered in the Review of the Literature were reflected in the instrumentation selected. Methodological concerns addressed the issues of definition, response set, validity, and reliability. The intention was to establish a baseline of efficacy-attribution-attitude correlates against which further data such as teaching methods and achievement outcomes could be analyzed and evaluated.

The hypotheses were that (1) efficacy and expectancy are positively correlated with ability and effort and

negatively correlated with task difficulty, luck, and helplessness/hopelessness; (2) high levels of efficacy are correlated positively with ability and effort; (3) high levels of efficacy are correlated negatively with the attributional style of helplessness/hopelessness; (4) the causal attributes of ability and effort account for a significant amount of variance in the dependent variables of efficacy and expectancy.

Research Design

Rationale for the Selection of the Statistical Design

In order to investigate causal attributes of given levels of efficacy and expectancy and determine their corresponding relationships to attributional styles of learned helplessness/hopefulness, it was necessary to examine the association of the independent variables of causal attributions and attributional style to the dependent variables of teacher self-efficacy and expectancy.

The rationale for the selection of the statistical design concerned the variables which are complex and difficult to isolate and did not readily lend themselves to controlled manipulation. To measure the interrelationships simultaneously through observation in the field would not have been effective in that mental constructs were being investigated (beliefs and attitudes) and could, therefore,

only be inferred from behaviors. Though, inferred behaviors from attitudes and beliefs would be a consideration, it was not the aim of this research. Observation at this point would have been made on the assumption of inferred mind-sets from behaviors observed. It would have been made on a broad dichotomous presence or absence of the inferred disposition of beliefs and no degree of relationship among the variables could be achieved only through observation. Also, field observation would have resulted in a small sample size and dealt with local school-specific variables which would limit the diversity of preferred larger sample sizes.

Given the multiplicity of possible operating variables with levels of self-efficacy/expectancy and attributions, and with attributional style, two considerations were relevant: one consideration was to limit the variables through definitions from previous research and the second was to study the interaction of which variables associate by using multiple measures of analysis of efficacy/expectancy and attributions. The most appropriate design for this study was a correlational one.

The correlational study is appropriate when the variables are complex and do not lend themselves to controlled manipulation. It is also an appropriate design used for measurement of several variables simultaneously in a realistic setting. The method favors understanding degrees of relationships versus the dichotomous present or

absent factor of experimental designs. A correlation method of analysis was also chosen to define the direction and magnitude of the relationship among the chosen variables (Isaac & Michael, 1989, p.49).

A caution in using this design as pointed out by Isaac and Michael (1989, p.49) is that spurious as well as arbitrary and ambiguous relational patterns need to be accounted for in analyzing the results of a correlation.

Given the multiplicity of possible operating variables with levels of self-efficacy/expectancy, attributions, and attributional style, a correlation method of analysis was chosen to define the direction and magnitude among the relationships of the given variables.

A biserial correlation was chosen to express the relationship between high and low levels of efficacy/expectancy and the independent variables of ability, effort, task difficulty, luck, and hopelessness/helplessness. Biserial correlations are problematic in the literature. Kaplan (1987, p.234-235) supports their use. Kurtz and Mayo (1979, p.313) support the use of biserial correlations and correlations in general given that the entire sample is present taking in all respondents and not eliminating those in various score ranges. A disadvantage is that the dichotomized variable is expressed in only two degrees and does not allow for more discrete analysis. The biserial r is a valid estimate if

the two-categorized variable is continuous and normally distributed. Also, if the two-categorized variable were subdivided, we would have a linear regression. Kurtz and Mayo (1979,p.313) state that this assumption is met for variables in education and psychology if the dichotomized variable is one that can be regarded as capable of further subdivision - which efficacy and expectancy could be.

In order to validate the assumptions of normality and linearity the Statistical Packages for the Social Sciences was used to analyze the data. To check for normality a histogram was run on the frequencies variables. Visually, the histograms indicated normal curves. A check of Table V on page 83 in Chapter IV indicates that the parameters of skewness and kurtosis were within the limits to define normalcy.

To assess for linearity two analyses were used -a plot command and a scatterplot command of regression variables. A visual inspection of the plot command indicated linear relationships- no curvilinear relationships were noted. The scatterplot of the residuals with the predicted values and the independent variables indicated no curvilinear tendencies.

Therefore, with the continuous variables in this study, the dependent ones (efficacy and expectancy), being dichotomized at the median and related to the independent variables of ability, effort, task difficulty, luck, and

helplessness/hopelessness and the assumptions of normality and linearity being met, the biserial r would be determined to be an appropriate analysis.

Kurtz and Mayo (1979,p.313) stated that biserial r may be used if, for each individual, two scores are present. One score may be on a variable that is continuous but not necessarily normally distributed. The other is a score on a point above or below which point a dichotomized trait would be developed from a normal distribution. Another assumption is that if we had such measures, the regression line for predicting scores on the continuous variable would essentially a straight line. Kurtz and Mayo go on to state that regression is usually essentially linear and that if the categorized variable can be classified as continuous, we can compute a biserial r . These conditions were met by this study's variables.

Nunnally (1967, p.122-124) cautions against the use of biserial r in that he states that the Pearson Product Moment is more accurate. If the assumption of normality of the distribution is met, then he seems to imply that the concern about the differential results is not great. His other objection is that the results of a biserial correlation are not subject to further mathematical analysis. This was not a matter of concern in this research because he limits the use of the biserial r to use in the development of mathematical models and not to determine correlation between

sets of empirical data. However, in this research, the desire was to examine tendencies of association for which the biserial r would be an appropriate method.

Regression analysis was chosen in order to determine relationships among interval data for analysis and to assess for prediction. Multiple regression is the best method in this instance for analyzing several independent variables against the dependent variables.

Method

In order to operationalize the definition of self-efficacy/expectancy and attributional causes, instruments already validated in previous research were used. Multiple measures of self-efficacy/expectancy and attributions were used as cross-measures. Self-efficacy/expectancy was measured by the Teacher Efficacy Scale (Consortium, 1991), and the Teacher Self-Efficacy Instrument (Hillman, 1986, p.43-48). Attributions were measured by the Teacher Self-Efficacy Instrument (Hillman) and the Attributional Style Questionnaire (Seligman). (Questionnaires, Appendix A)

The method was to use the three questionnaires to analyze causal choices made along Weiner's four attributional dimensions of ability, effort, task, difficulty, and luck. The result is a three-way interaction between levels of self-efficacy/expectancy, attributional

choices, and attributional styles of helplessness and hopefulness.

Sample

The sample consisted of teachers in two school districts in the Chicago metropolitan area. The sample spanned all grade levels (from K-12). The questionnaires were administered on a voluntary and anonymous basis.

Procedures

The procedure was to administer the three questionnaires in order to relate teacher efficacy and expectancy levels to attributional dimensions. Superintendent and principal cooperation was obtained. The three instruments were sent by mail for voluntary and anonymous participation by the respondents. All three instruments with a cover letter were sent to the participating schools to be distributed to the faculty. The goal was to develop attributional profiles for high and low levels of efficacy and expectancy in order to analyze an individual's explanatory style for causes of outcomes. These explanatory styles guide thinking and, therefore, behavior. It was posited that the effect of attributional thinking on efficacy and expectancy is related to levels of

attributional styles. The hypothesis was that attributions are indicators of efficacy and expectancy. Further, postulated was the fact that the assignment of causes to events leads to given levels of hopefulness or helplessness.

To achieve these profiles the questionnaires measured levels of efficacy and expectancy (Teacher Efficacy Scale) against attributions of dominant causes of success or failure as defined by Weiner and measured by Hillman's Teacher Self-Efficacy Instrument. These causes are ability, effort, task difficulty, and luck. Ability was defined as an internal fixed cause, effort was defined as an internal variable cause, task difficulty was defined as an external fixed cause, and luck was defined as an external variable cause. This research used Weiner's classification of effort as an internal and variable factor (1986, p.46).

These four attributions were related to levels of hopefulness and helplessness as measured by the Attributional Style Questionnaire. This questionnaire defined helplessness as having attributional styles for bad events as internal, stable, and global.

How the dimensions of the attributional variables interact with levels of efficacy and expectancy were the focus of this research. The questionnaires are described in detail.

INSTRUMENTATION

Teacher Self-Efficacy Instrument

(Causal Attributions Questionnaire)

Causal attributions were measured by Hillman's Teacher Self-Efficacy Instrument. The instrument consists of sixteen items; half are presented with positive situations which are classroom specific. Four reasons are listed with each item as possible explanations as to why the situation might have occurred. The first reason in each question attributes the situation to either the teacher's ability or inability to teach (internal fixed); the second reason attributes the situation to either their effort or lack of effort (internal variable); the third placed responsibility on materials - the test content or subject content (external fixed); the fourth assigned responsibility to either luck or lack of luck (external variable).

The instrument is composed of eight subscales with eight items falling under each subdivision. (1) positive internal fixed; (2) positive internal variable; (3) negative internal fixed; (4) negative internal variable; (5) positive external fixed; (6) positive external variable; (7) negative external fixed; and (8) negative external variable. To measure the strength of efficacy a Likert format is used of "strongly agree", "agree", "unsure", "disagree", and "strongly disagree" with each reason as a probable cause for the situation. Scores on each subscale are calculated by

assigning the following points to the possible responses: strongly agree = 5 points, agree = 4 points, unsure = 3 points, disagree = 2 points, strongly disagree = 1 point. The points are summed across all eight items.

Content validity was judged by a panel of six experts. Item by item analysis was conducted to determine if the dimensions (positive/negative; internal/external; fixed/variable) were represented as intended. Each stem was first evaluated on the positive-negative component. Next, the external/internal component was determined and then it was determined if the options could be further broken down into fixed and variable. Levels of agreement were calculated on each dimension: positive/negative, internal/external, fixed/variable. The sum of the number of experts who agreed on each item was divided by the total possible score if all experts had agreed on all of the items.

The following are listed as levels of agreement in identifying the dimension of the construct self-efficacy:

<u>Dimension</u>	<u>Level of Agreement</u>
Positive/negative	97.92%
Internal/external	100.00%
Fixed variable for internal items	100.00%
Fixed variable for external items	98.96%

All experts were able to distinguish fixed and variable as defined by the literature. It was the overall feeling that the categories were arbitrary. This addresses the issue of definition referred to in Chapter I. Definition

must be delineated and adhered to as a situation-specific factor. Also, response set has been addressed by using questionnaires with both negative and positive question formats.

Figure 4.

Model for Causal Ascriptions of Efficacy

Model for Questionnaire

Stability of Cause	Locus of Control	Locus of Control
	Internal	External
Fixed	ABILITY	TASK DIFFICULTY
Variable	EFFORT	LUCK

Interaction between locus of control and stability of cause (Lefcourt, 1976, p.78; Weiner, 1986, p.46)

Reliability issues addressed include the instrument being completed by twenty-five Indiana public elementary school teachers. Cronbach's alpha on each subscale was obtained. Alpha level obtained:

Subscale Level	Alpha
Positive	
internal fixed	.93
internal variable	.92
Negative	
internal fixed	.65
internal variable	.83
Positive	
external fixed	.79
external variable	.79
Negative	
external fixed	.43
external variable	.88

(Hillman comments that the external fixed variable has been reworded, however, no knew alpha level is given. But a total alpha level is listed for the instrument at .88)

The feasibility of subsuming the fixed/variable dimension under the four larger categories (positive internal, negative internal, positive external, negative external) was checked. A correlation coefficient of .75 was

obtained ($p < .01$) indicating homogeneous variables. The fixed variable dimension was found not to be dichotomous. Therefore, the subscales were collapsed into four. The alpha levels were as follows: (Hillman, 1986)

Subscale	Alpha Level
positive internal	.93
negative internal	.83
positive external	.87
negative external	.81

Attributional Style Questionnaire

The Attributional Style Questionnaire was used to determine levels of helplessness/hopelessness. Peterson, Semmel, von Baeyer, Abramson, Metalsky, and Seligman, (1982, p.287-297) revised helplessness theory to include an individuals's causal explanations of negative events. The questionnaire has been used in a number of situations including people undergoing various stressful events.

Peterson et al. are cited in Tennen and Herzberger (1985, p.23f) as having a large literature supporting the criterion and construct validity of the Attributional Style

Questionnaire. Regarding criterion validity, two studies examined the extent to which the Attributional Style Questionnaire predicts causal explanations. Correlations ranged from .19 ($p < .10$) to .41 ($p < .001$). Construct validity was said to be demonstrated by a correlation with the Beck Depression Inventory (1967) (No numerical data given). Convergent validity was said to be reflected with a moderate correlation, no numerical data was listed.

Regarding internal consistency for internality (locus), stability, and global scale reliabilities, Peterson and Seligman report them to be between .44 and .69. (1984,p.351) However, Tennen and Herzberger (1985,p.22) report that Peterson and Seligman's revised version of the Attributional Style Questionnaire produced coefficient alphas ranging from .66 to .88.

Test-retest reliability correlations are as follows:

Correlations for

<u>Attributional Dimensions for Good Events</u>	<u>r</u>
Internality	.58
Stability	.65
Globality	.59
Composite	.70

Attributional dimensions for bad events

Internality	.64
Stability	.69
Globality	.57
Composite	.64

$p < .001$

Seligman et al. state that the scores substantiate the hypothesized "style" (Peterson, Semmel, von Baeyer, Abramson, Metalsky, Seligman, 1982,p.297; 1984; and Tennen & Herzberger, 1985,p.29).

Teacher Efficacy Scale

The Teacher Efficacy Scale from the Consortium on Chicago School Research was used as the main measure of teacher efficacy/expectancy. This scale was used in the study of Charting Reform: The Teachers' Turn. This instrument was developed through a collaborative effort of teachers and principals.

The Teacher Efficacy Scale is composed of the following subscales from the Consortium research: the Teacher Efficacy Scale, the Teacher Competency, and the Teacher Expectancy Scale. The sample size was 12,708 Chicago elementary school teachers.

Validity on this instrument was established by face validity determined by the Consortium's Elementary Teacher Survey Work Group, teachers from the Chicago Teachers' Union, and members of the Teachers' Task Force.

Reliability for the Teacher Efficacy Scale is as follows:

VARIABLE	ALPHA
Teacher Efficacy	.78
Teacher Expectancy	.50
Teacher Competency	.82

The questionnaire was normed on a random sample of Chicago's 77 community areas.

Types of Data Collected

Variables Measured:

Independent Variables:

Causal Attributions:

Ability
Effort
Task Difficulty
Luck

Attributional Style:

Helplessness/Hopelessness

Dependent Variables:

Teacher self-efficacy
Teacher expectancy

Moderator Variables:

Level of Education
Level of Experience
Age
Team vs. Isolation
Race
School Size
Heterogeneous/ homogeneous
Gender
SES(of parents)
Parenthood
Grade Level

Analysis of Data

To compare teacher self-efficacy to causal attributions and attributional style the following statistical treatments were done. A correlation was done to examine the relationships among the variables and to further determine the strength or magnitude of any relationship. A biserial correlation was done to examine the relationship between the dependent variables of efficacy and expectancy and the independent variables of ability, effort, task difficulty, luck, and helplessness/hopelessness. The biserial was done to determine what causal variables associated with high levels of efficacy. A high level of efficacy was defined as the level above the median score of efficacy and expectancy. A multiple regression was run to determine the degree of variance among the independent variables of causal attribution and attributional style to efficacy and expectancy; and also, to determine if prediction could be made among the dependent and independent variables.

In summary, a multi-methodological approach was used with multiple instruments due to the complexity of the constructs to determine the explanatory and or predictive power of the self-efficacy/expectancy construct.

A cautionary note in the literature from Bradley (1978, P.56f.) concerns self-serving biases in responses to

attributional processes. He cautions that self-serving biases can modify attributions of causality. He found that individuals tended to accept responsibility for positive behavioral outcomes and to deny responsibility for negative behavioral outcomes. The question is whether motivational or cognitive processes underlie an individual's causal ascriptions. Bradley did find evidence for his concern that self-serving biases operate in respondents' answers. As a guard against the above concern, questionnaires with both positive and negative orientations were chosen.

On a positive note regarding accuracy of respondent's choices, Bandura (1986, p.6) notes that as a result of cognitive processing people's rating of their own behavior yields consistencies. He states that although the behaviors may vary considerably, behavior is more consistent with verbal report than the direct assessment of the behaviors themselves.

CHAPTER IV

RESULTS

This chapter details results collected from the data sources used in this investigation: the Teacher Efficacy Scale, Teacher Self-Efficacy Instrument, and the Attributional Style Questionnaire. The three questionnaires were analyzed according to methods of correlation, biserial correlation, and multiple regression to determine levels of association and prediction on the variables of efficacy, expectancy, ability, effort, task difficulty, luck, and helplessness/hopelessness.

Demographics

The results of the study using three questionnaires were obtained from responses sent to 546 teachers in two separate districts kindergarten through grade twelve in the Chicago Metropolitan area. The obtained response rate was 27% for both districts. District A was sent 360 questionnaires; 99 were returned (.275%). District B received 186 questionnaires with 51 returned (.274%). One blank return was sent from each of the two districts making a total return of 150 questionnaires; 148 were capable of analysis with only 140 with no missing data being used in the final analysis.

Table I

Summary Table of Demographics of Respondents

Mean Class Size	Bachelor Degree	Masters Degree	Doctorate	Mean Years Teaching Experience	School Size
22.9	32	107	1	16.78	109-1600

Mean Age	Team Teach	Isolated Teaching	Proportion Female	Proportion Male	Parent	Non-Parent
43.35	25.7%	71.4%	80%	20%	75%	25%

Heterogeneous Grouping	Homogeneous Grouping	No Response
82%	10%	7%

Economic Level of Respondents' Parents				
Low	Middle	Upper Middle	High	No Response
12%	66%	18%	2%	1%

Table I. continued:

Race			
Caucasian	Black	Hispanic	No Response
78%	3%	1%	18%

Table I provides evidence that the sample is predominantly caucasian, female with a mean age of forty-three years, has a master's level degree, and is predominantly middle class.

Reliability

Table II
Summary Table of Reliability Estimates

Scale	Number of Items	Alpha
Efficacy	11	.75
Expectancy	4	.50
Hillman's Efficacy/ Attributions	64	.91
Attributional Style Questionnaire- Composite Helpless/Coneg	18	.77

Table II is a summary of Cronbach's Alpha done on the three questionnaires of the Teacher Efficacy Scale, Teacher Self-Efficacy Instrument, and the Attributional Style Questionnaire. The Teacher Efficacy Scale was divided into efficacy and expectancy which is supported in the literature as a valid two-dimensional expression of the construct of efficacy. From the Chicago Consortium's questionnaire, the Teacher Efficacy and Teacher Competency measures were combined into the teacher efficacy measure along with the Berman and McLaughlin (1977, p.158) efficacy question from the Rand Corporation Study of Title III Elementary and Secondary Education Act Projects. The expectancy measure was taken from the Chicago Consortium's expectancy

questionnaire along with the expectancy question from the Berman and McLaughlin's expectancy question from the Rand Corporation's study of Title III Elementary and Secondary Education Act projects. (Berman, 1977, p.158f)
(Questionnaires-Appendix A)

Correlation

Correlation Results for Hypothesis I.

To address the first hypothesis that the dependent variables of efficacy and expectancy are correlated positively with the independent variables of ability and effort, and that efficacy and expectancy are correlated negatively with the helplessness/hopelessness independent variable, a correlation matrix was constructed.

Table III
Summary of Pearson Product-Moment Correlations
of the
Dependent and Independent
Variables

	1	2	3	4	5	6	7
1	1.00	.3470 **	.1285	.1012	-.1183	-.2138 *	.0044
2	.3470 **	1.00	.0792	.0579	-.0547	-.1862 *	.0532
3	.1285	.0792	1.00	.2778 **	.2574 **	.2486 **	.1361
4	.1012	.0579	.2778 **	1.00	.3716 **	.1610	-.0198
5	-.1183	-.0547	.2574 **	.3716 **	1.00	.6627 **	-.0185
6	-.2138 *	-.1862 *	.2486 **	.1610	.6627 **	1.00	-.0827
7	.0044	.0532	.1361	-.0198	-.0185	-.0827	1.00

* = significant .05 ** = significant .01 (2-tailed)

1. = efficacy 2. = expectancy 3. = ability 4. = effort 5. = task difficulty 6. = luck 7. = composite negative (helplessness)

Table III is a presentation of the Pearson Correlation Coefficient. Option 2 was used to obtain two-tailed significance. The dependent variables are efficacy and expectancy; the independent variables are ability, effort, task difficulty, luck, and helplessness/hopelessness.

As indicated from Table III six combinations of variables were positively significant at the .01 level. Two combinations of variables were negatively significant at the .05 level.

The correlation indicates that efficacy and expectancy have a correlational ratio of .347 at the .01 level; ability and effort have a .2778 correlation ratio; ability and task difficulty have a correlation ratio of .2574; effort and task difficulty have a correlation ratio of .3716; and task difficulty and luck have a correlation ratio of .6627.

The correlation analysis further showed that efficacy correlated negatively with luck $-.2138$ and expectancy correlated negatively with luck $-.1862$ at the .05 level of significance.

The result of the correlation analysis did not support the first part of the hypothesis which states that efficacy and expectancy are positively correlated with ability and effort. The data does support the portion of the hypothesis which states that efficacy is negatively correlated with luck and that expectancy is negatively correlated with luck.

Biserial Correlation Results for Hypothesis II. & III.

To provide evidence for the second hypothesis that high levels of efficacy are correlated positively with the causal attributes of ability and effort; and to provide evidence for the third hypothesis that high levels of efficacy are correlated negatively with the attributional style of helplessness/hopelessness a biserial r was performed on the data.

Biserial Correlation

To measure the extent to which high levels of efficacy/expectancy relate to the causal attributions of ability, effort, task difficulty, or luck, and to the given attributional style of helplessness/hopelessness, a biserial correlation was done by dichotomizing the continuous variable of efficacy/expectancy at the median and relating the other independent variables to the obtained high category of the self-efficacy construct.

According to Kurtz and Mayo (1979, p.313,339) biserial r has approximately the same meaning as a Pearson product moment coefficient of correlation of the same size. They state that it is the best available estimate of what the size of the Pearson r would be if the continuous variable remained as it was. Kurtz and Mayo go on to state that the

biserial r is ordinarily more accurate if the dichotomized variable is separated near the median.

The traits underlying the dichotomized variable efficacy/expectancy are assumed to be normally distributed and linearly related to the continuous variables of ability, effort, task difficulty, luck, and hopelessness/helplessness. To check for normality of the distribution the following statistics were run.

Table IV

Summary Table of Frequencies Distributions
of
Dependent and Independent Variables

Variable	Mean	Median	Stddev	Skewness	Kurtosis
Efficacy	34.69	35.00	5.18	-.66	.20
Expectancy	10.22	11.00	2.35	-.46	.40
Ability	41.05	43.00	7.83	-1.173	1.68
Effort	53.03	52.00	8.64	.11	.34
Task Difficulty	46.96	48.00	8.64	-.44	1.10
Luck	38.33	38.00	12.20	.12	-.38
Hopeless/ Helpless	68.47	68.00	14.85	-.08	.07

Examination of Table IV provides evidence for the assumption of a normal distribution given the lower readings for skewness and kurtosis.

The formula for the biserial r was taken from Nunnally (1967, p.122) and is as follows:

$$r\text{-bis} = \frac{M_h - M_l}{\text{stddev}} * \frac{p(1-p)}{z}$$

Where M_h = mean score on continuous variable of "high" group on dichotomous variable

M_l = mean score on continuous variable of "low" group on continuous variable

Stddev = standard deviation on continuous variable for total group

p = proportion falling in the "high" group on the dichotomous variable

z = ordinate of the normal curve corresponding to p .

(Nunnally, 1967, p. 122)

Table V

Summary Table of Biserial r for the Dependent Variable
of Efficacy

The following correlation coefficients were obtained
using the above formula:

Variables	Biserial r
Efficacy/Expectancy	.24
Efficacy/Ability	.18
Efficacy/Effort	.11
Efficacy/Task Difficulty	-.04
Efficacy/Luck	-.11
Efficacy/Hopelessness/Helpless	-.05

Examination of Table V provides evidence of tendencies for high levels of efficacy to correlate with moderate levels of expectancy; for high levels of efficacy to correlate with moderate levels of ability; and for high levels of efficacy to correlate with lower positive levels of effort. It also indicates that high levels of efficacy correlate negatively with the attribution of task difficulty; high levels of efficacy correlate negatively with the attributions for luck; and high levels of efficacy correlate negatively with the levels of helplessness/hopelessness. To check for statistical significance of the biserial results a t-test was done on the biserial r's.

Table VI

Summary Table of T-tests for Biserial r

Variable	F-value	2-tailed Prob.	t-value	Degrees of Freedom	2-tailed Prob.
Expectancy	1.11	.674	-2.27	138	.024
Ability	1.05	.828	-1.73	138	.086
Effort	1.01	.977	-1.05	138	.295
Task Difficulty	1.11	.669	.42	138	.672
Luck	1.12	.636	1.05	138	.294
Hopeless/Helpless	1.07	.762	.46	138	.649

Examination of Table VI provides evidence that only expectancy correlates significantly at the .05 level with high levels of efficacy.

Multiple Regression Results for Hypothesis IV.

Multiple Regression

To provide evidence for the fourth hypothesis that the causal attributes of ability and effort account for a significant amount of the variance in the dependent variables of efficacy and expectancy a multiple regression was performed on the data. A stepwise regression analysis was computed to examine the contribution of the independent variables as they contributed to the variance of the dependent variables of efficacy and expectancy. The variables were entered in single steps determined by the respective contribution of each to reducing the unexplained variance.

Table VII

Summary Table of Stepwise Regression
for the Dependent Variable of Efficacy

R	R ²	Adj. R	F	Sig. F
.347	.120	.114	18.894	.000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
Expectancy	.764		.347		.000
(Constant)	26.877	.175		4.347	.000
		1.844		14.571	

Examination of Table VII shows that the results of the multiple regression indicate that expectancy accounts for approximately 12% of the variance in the variable of efficacy at the $p < .01$ level of significance.

Table VIII

Summary Table of Stepwise Regression Procedure
for the Dependent Variable of Expectancy

R	R ²	Adj. R	F	Sig. F
.347	.120	.114	18.894	.000

Variables in the Equation

Variable	B	SE B	Beta	T	Sig. T
Efficacy	.157	.036	.347	4.347	.000
(Constant)	4.760	1.271		3.743	.003

Examination of Table VII provides evidence that efficacy accounts for approximately 12% of the variance in the variable of expectancy. This was significant at the $p < .0 .01$ level.

Summary of Results

The following results were indicated given the variables and the instrumentation.

Regarding the first hypothesis, there was some evidence that efficacy was correlated negatively with luck at the .05 level of significance, and that expectancy correlated negatively with luck at the .05 level of significance.

Regarding the second and third hypotheses analyzed by the biserial r , only one significant result was found at the .05 level of significance and that was high levels of efficacy correlate with expectancy.

Regarding the fourth hypothesis analyzed by a stepwise multiple regression, evidence was found that efficacy and expectancy each accounted for only 12% of the variance of each other. This was at the .05 level of significance.

CHAPTER V

DISCUSSION

The purpose of this research was to investigate the relationships among the variables of self-efficacy and expectancy to the causal attributions of ability, effort, task difficulty, and luck, and to further determine if there was any relationship among these variables to the variable of hopelessness/helplessness. The goal was to analyze antecedent correlates of attributional thinking related to teacher-specific situations.

The goal was further to identify causal sources of efficacy and generate a method to predict sources of efficacy and inefficacy. The intention was to establish a baseline of efficacy-attribution-attitude correlates against which further data such as teaching methods and achievement outcomes could be analyzed and evaluated.

The findings support the following hypotheses.

Hypothesis I analyzed by a correlation predicted that efficacy and expectancy would correlate positively with ability and effort and negatively with task difficulty, luck, and helplessness/hopelessness.

This study provides evidence that efficacy correlates significantly with expectancy and negatively with luck.

Expectancy has a significant positive correlation with efficacy and a significant negative correlation with luck. The finding of the negative correlation with luck does indicate that for those two dimensions -efficacy and luck, and expectancy and luck, the instruments were valid and reliable. For if efficacy is defined as an internal/control belief that one can affect outcomes, and luck is defined as an external/unstable component, then the two variables would correlate negatively which they did. Expectancy, also, correlated negatively with luck with the same factors of internal/control versus external/unstable control explaining the correlation.

These results are consistent with findings of previous research by Bandura (1986, p.349,413) that self-efficacy is not attributed to luck or chance.

Efficacy and expectancy correlated positively which would be an assumption given the bi-dimensionality of the efficacy/expectancy construct.

Effort being internal and variable correlated positively with task difficulty defined as external and fixed; and luck being external and variable correlated positively with task difficulty defined as external and fixed. Both of these correlations would be logical and expected.

Hypotheses II predicted that high levels of efficacy are correlated positively with the causal attributions of

ability and effort. This hypothesis could not be substantiated. The reason appears to be the apparent confounding of the variable of ability. The variable as defined for the Hillman questionnaire on the Teacher Self-Efficacy Instrument referred to a variable which would be fixed and internal. The Pearson correlation suggests that ability was related to effort, task difficulty, and luck. This would suggest that ability was not seen as a fixed-internal trait on the responses and, therefore, was measuring something other than an innate factor that the Hillman questionnaire defined.

Lefcourt comments on this situation when he states that situationally-assessed beliefs about causation are susceptible to interpretations by the subject. He goes on to state that this necessitates exact definition and precise delineation of categories. The indication seems to be that ability, although delineated on the questionnaire, was interpreted and used in an equivocal manner (Lefcourt, 1981, p.162).

Hypothesis III predicted that high levels of efficacy are correlated negatively with the attributional style of helplessness/hopelessness. No evidence for this hypothesis was found.

Hypothesis IV predicted that the causal attributes of ability and effort account for a significant amount of variance in the dependent variables of efficacy and

expectancy. This hypothesis was not substantiated. What was found was that efficacy and expectancy accounted for approximately twelve percent of the variance in each other. This finding was significant at the .01 level. None of the other causal attributes account for any amount of significant variance in either efficacy or expectancy. This poses a further question of whether or not the instruments measured a common element in efficacy and expectancy. A concern at this time is the limited number of questions on the expectancy measure (four) and the fact that the efficacy measure had a reliability of .50. Although previous research used this measure (Consortium, 1991), it is felt that any further investigation would require further development of the expectancy measure in particular.

Interpretation

This study's results in researching the teacher-belief system of attributional thinking and style, though not compelling did support the literature and suggest trends for further investigation.

In analyzing the antecedent correlates of attributional thinking and style, the significant correlations of the Pearson correlations at the .01 level were that efficacy correlates positively with expectancy; effort correlates positively with ability; ability correlates positively with

task difficulty; effort correlates positively with task difficulty; ability correlates positively with luck; and task difficulty correlates positively with luck.

In the negative at the .05 level it was found that efficacy correlates with luck and expectancy correlates negatively with luck.

The positive correlations will be analyzed according to the Weiner (1986,p.46) taxonomy of locus, stability, and controllability: ability being stable and internal; effort being internal and unstable; task difficulty being external and stable; and luck being external and unstable.

Using this taxonomy it could be stated that efficacy and expectancy being internal factors correlate with each other. The stability or instability would be open to definition and not addressed in this research given Bandura's findings that efficacy and expectancy are situation specific variables. Effort being an unstable internal factor correlated positively with ability being a stable internal factor. This finding confounds the stipulation of the Teacher Self-Efficacy Instrument (Hillman) which specifies the definition of ability as that which refers to a competency which is not gained through hard work or training but is natural by virtue of being inherent.

Ability correlated positively with task difficulty. Ability according to Weiner (1986,p.46) is a stable internal

trait; task difficulty is a stable external trait. Again, this is a confounding of the definition of ability being seen as inherent: the correlation with task difficulty implies that it was not interpreted this way by those answering the questionnaire. Effort correlates positively with task difficulty: effort being internal and unstable and task difficulty being external and stable, by definition the correlation would be logical.

Ability correlated positively with luck; again this is a confounding of the definition for the efficacy/attribution questionnaire of Hillman. Task difficulty correlated positively with luck. Task difficulty being external and stable and luck being external and unstable. The correlation by definition of the terms would be expected.

In addressing the negative correlations, efficacy correlates negatively with luck. This would be expected. Reiterating, an efficacious person according to Bandura (Bandura, 1986, 349,413) would attribute success to internal factors and not to external factors such as luck or chance. Expectancy correlates negatively with luck and would be analyzed according to the same reasoning.

In analyzing the regression for efficacy and expectancy, the two significant findings at the $p < .01$ level were that both efficacy and expectancy accounted for 12% of the variance in their respective equations. This would seem to indicate that there is a relationship between

the two constructs.

Limitations

While support for the theories of Bandura and Weiner regarding efficacy correlating negatively with external factors of luck or chance, some unexpected findings were presented having to do with issues of definition. Regarding the issue of ability being defined as an internal fixed variable, this appears to have equivocal meaning in that it correlated with luck and task difficulty. If ability were defined by the respondent as being an internal and stable trait, it is felt that it would not have correlated with task difficulty an external-stable trait or luck an external-unstable trait. The internal validity of the correlation coefficient is, therefore, confounded.

Isaac and Michael (1989,p. 216-217) address this problem in their discussion of the limitations of assessing the affective domain. They state that the state of the art in devising reliable and valid instruments associated with such constructs as attitudes, motivation, etc. is often marginal. It should be noted that although the measure used showed sufficient reliability, it is felt that the equivocal meanings associated with some terms especially ability confounded the results. Isaac and Michael, also, comment on the changeability of feelings and attitudes which are

sensitive to many factors both inside and outside the teaching learning situation. This leads to the problem stated by Wang and Richarde (1988, p.533f) that there is both a global and task-specific component to the self-efficacy construct. This factor would need further attention when designing efficacy instrumentation.

Isaac and Michael (1989, p.216-217) cite the fact that when measuring attitudes the general predisposition is to be in the positive rather than the negative. This is a consideration in dealing with teacher attitudes, for there are acceptable and unacceptable responses to teacher-learner interactions. Even though the questionnaires were given anonymously, there are prescribed acceptable attitudes for teacher-student interactions. There would be a tendency to answer with the accepted response rather than the negative. This consideration may also lead to the issue of truncated range in analyzing low correlation scores, in that the range of responses may be somewhat restricted due to the acceptable/unacceptable response range of accepted responses (Elmes, Kantowitz & Roediger, 1985, p.190-1991).

Another factor which may be confounding the results and leading to low correlations is the global versus specific issue regarding self-efficacy. As has been mentioned, Bandura views self-efficacy as a situation-task-specific variable. In measuring self-efficacy, however, the tendency is to generalize to an underlying trait of efficacy,

although, this was attempted to be controlled for by using only teacher-specific instruments. This point was a confounding factor in a study done by Wang and Richarde. They found no discernable pattern of inter-correlations in their study. They did a study to reconcile contextual problems of self-efficacy versus its global nature. A generalized self-efficacy scale was used which was inversely related to Rotter's Locus of Control Scale and the Hopelessness Scale. Their conclusion was that global and task-specific measures of self-efficacy are distinct measures of self-efficacy. This could possibly be another factor confounding the results (Wang, Richarde, 1988, p.533f.).

Implications

The implication is that further research needs to be done both into the construct of teacher efficacy and expectancy and into the measurement of the construct. Bernard Weiner in his publication "Some Methodological Pitfalls in Attributional Research" discusses the attribute of ability as being perceived as an unstable variable when it connotes knowledge rather than aptitude. This lack of univocal meaning could contribute to the confounding of the correlations (Weiner, 1983, p.536).

Recommendations

Theoretical definitions must be operationalized in further instrumentation. Careful attention to definition and categories is necessary in the instrumentation for investigation of the construct. A problem with the definition of ability, also, is the current thinking that ability must be thought of as variable in order to provide equitable instruction and not limit student performance with stereotypical expectations of given ability levels. This fact also complicates the measurement of an ability construct that could measure Bandura's (1986,p.46) variable of ability as fixed and internal.

In order to further explain and explore the efficacy expectancy-attribution correlate relationship, it is recommended that both quantitative and qualitative methods be employed.

The nature of the variables and the measurement instruments currently used to assess individual differences are leaving gaps in our knowledge of the construct. Further instruments need to be refined with attention to construct validity. A means to further refining the construct could be obtained through qualitative methods.

To validate teacher perceptions of self-efficacy, it is proposed that the method of teacher interview, student interview and/or surveys, and principal/superintendent

interviews and/or surveys be used to validate teacher self-perceptions of efficacy. This could prove to be a means of refining the meaning of efficacy and correlating it with significant attitudes and behaviors.

Using taped presentations (videos) and detailing responses of those determined to be efficacious or non-efficacious could shed more insight into the characteristics and thinking patterns of what an efficacious or non-efficacious response would be.

This information could help to further refine questions for instruments to be developed to assess efficacy. Also, in conjunction with efficacy instruments, it is further recommended that independent personality measures be used in conjunction to assess for personality correlates. Also, a means of determining veracity of responses needs to be addressed due to issues of self-serving attributes (Lefcourt, 1981, p.70) and self-esteem-counter-defensive attribute issues (Bradley, 1978, p.56).

Finally, in order to counteract constraints on reliability and issues of truncated range, responses should be sought across the age, gender, and experience range.

It was predicated at the beginning of this research that examining the association among the variables was complex in that they are difficult to isolate. Therefore, an attempt to predict from the correlates is premature at this time.

Conclusion

Although there is no compelling evidence to support the theory that efficacy can be predicted from the attributes of ability, effort, task difficulty, luck, or the helplessness/hopelessness construct, the application of the theory that self-efficacy/expectancy enhances the effectiveness of the teaching-learning process should not be contingent upon definitive empirical justification of the construct. Currently, inquiry and experimentation are being done using the construct of teacher efficacy to improve teacher effectiveness and student learning.

Kelley and Michaela (1980, p.457f) have termed reattribution to be a retraining of attribution perceptions. Kimmel and Kildbridge (1991, p.4f) have used attribution theory to train teachers to attribute poor student achievement to factors such as poor instruction rather than student lack of ability. They found the training to be effective in changing teachers' causal thinking about the teaching-learning process.

Patricia Miller (1991, p.30-35) has attempted to increase teacher efficacy in order to work with low achieving and minority students to enhance individual progress. John Sachs (1990, p. 235-239) has investigated teacher self-efficacy in regard to teacher preparation. Dembo & Gibson (1985, p.174f) have investigated teacher

efficacy as a factor in school restructuring. Patricia Ashton (1984b, p.31) has stated that teacher education programs should aim to develop teacher efficacy to achieve effective classroom performance.

Chester (1991, p.3f) has recently investigated variables that predict changes in self-efficacy beliefs in first-year teachers. Teacher training, teacher education, and staff development are key issues in our quest for more effective schools. Michael Fullan (1990, p.3f) and Bruce Joyce (1990, p.26f) are just a few of the researchers investigating the area of teacher education and teacher training as being instrumental in our goal of improved education.

The teacher has become the focal point in school improvement. In 1976 Brophy and Evertson (p.10-12) advocated using the teacher as the unit of analysis to identify effective teaching behaviors and relate them to student outcomes. In 1978 Gage (1978,p.81) stated that teachers' beliefs need to be explored as a crucial variable in influencing their decision to use effective teaching practices. Walberg (1986, p.218) has also maintained that the teacher is one of the most important instructional variables influencing student learning and that excellent instruction can overcome prior environmental handicaps.

There is a proven and established need for the exploration of teacher efficacy as a necessary construct to improve the teaching-learning process through teacher

education and teacher training. It remains to develop more precise instrumentation to further define, explore, and understand the construct. This study is an example of the position that the answers to our questions do not necessarily lie within the parameters we set for them.

APPENDIX A
QUESTIONNAIRES

TEACHER EFFICACY SCALE

Mark the extent to which you agree
or disagree with the following
as a 1, 2, 3, or 4.

Strongly
Disagree Agree

- | | | | | | |
|-----|--|---|---|---|---|
| 1. | I am certain I am making a difference
in the lives of my students. | 1 | 2 | 3 | 4 |
| 2. | I usually look forward to each working
day at this school. | 1 | 2 | 3 | 4 |
| 3. | I sometimes feel it is a waste of my
time to try to do my best as a teacher. | 1 | 2 | 3 | 4 |
| 4. | My success or failure as a teacher is due
primarily to factors beyond my control. | 1 | 2 | 3 | 4 |
| 5. | Most of the time I feel satisfied with my
job in this school. | 1 | 2 | 3 | 4 |
| 6. | If I could start over, I would become a
teacher again. | 1 | 2 | 3 | 4 |
| 7. | I feel successful providing the kind of
education I would like for my students. | 1 | 2 | 3 | 4 |
| 8. | Many of the students I teach are not
capable of learning the material I am
supposed to teach them. | 1 | 2 | 3 | 4 |
| 9. | My expectations about how much students
should learn are higher than they used to
be. | 1 | 2 | 3 | 4 |
| 10. | The attitudes and habits my students
bring to class greatly reduce their
chances for academic success. | 1 | 2 | 3 | 4 |
| 11. | I feel competent teaching math. | 1 | 2 | 3 | 4 |
| 12. | I feel competent teaching writing. | 1 | 2 | 3 | 4 |
| 13. | I feel competent teaching reading. | 1 | 2 | 3 | 4 |

14. When it comes right down to it, a teacher really can not do much because most of a student's motivation and performance depends on his or her home environment. 1 2 3 4
15. If a teacher really tries hard, s/he can get through to even the most difficult or unmotivated student. 1 2 3 4

TEACHER SELF-EFFICACY INSTRUMENT

Directions: For each of the following statements posing a situation, there will be four hypothetical reasons why the situation exists. You are to respond to each reason indicating whether you:

"SA" - Strongly Agree
 "A" - Agree
 "U" - Unsure
 "D" - Disagree
 "SD" - Strongly disagree

CIRCLE THE LETTERS CORRESPONDING TO YOUR ANSWER.

EXAMPLE: x. If most students complete a homework assignment you give, it is usually because

I-----I-----I-----I-----I a. of your natural ability* to
 SA A U D SD teach.

I-----I-----I-----I-----I b. of the effort you put into
 SA A U D SD teaching.

I-----I-----I-----I-----I c. the assignment was easy for all to
 SA A U D SD complete.

I-----I-----I-----I-----I d. your class is a particularly good
 SA A U D SD class.

This person strongly agreed with reasons "A" and "D", but was unsure about "c". The respondent strongly disagreed that his or her effort would affect whether a homework assignment would be completed or not.

PLEASE BE SURE TO RESPOND TO EACH POSSIBLE REASON. FOR EACH STATEMENT YOU SHOULD HAVE FOUR RESPONSES. It is important that you respond as candidly and as accurately as possible given that the particular situation exists.

* One clarification may be needed. For the purposes of this questionnaire, "natural ability" refers to a competency which is not gained through hard work or training but is "natural" by virtue of being born with this ability— such as a "natural born leader".

1. If a student does well in your class, it is probably because

I-----I-----I-----I-----I a. of your natural ability to
SA A U D SD teach.

I-----I-----I-----I-----I b. of the effort you put into
SA A U D SA teaching.

I-----I-----I-----I-----I c. the assignments are easy.
SA A U D SD

I-----I-----I-----I-----I d. you were lucky to get at least
SA A U D SD a few good students.

2. When your class is having trouble understanding something you have taught, it is usually because

I-----I-----I-----I-----I a. you do not possess a natural
SA A U D SD ability to teach.

I-----I-----I-----I-----I b. you did not put in enough
SA A U D SD effort.

I-----I-----I-----I-----I c. the material you are teaching
SA A U D SD is difficult to comprehend.

I-----I-----I-----I-----I d. you were unlucky in getting a
SA A U D SD particularly slow class this year.

3. When most of your students do well on a test, it is more likely to be because

I-----I-----I-----I-----I a. of your natural ability to
SA A U D SD teach.

I-----I-----I-----I-----I b. of the effort you put into
SA A U D SD teaching.

I-----I-----I-----I-----I c. the test was easy.
SA A U D SD

I-----I-----I-----I-----I d. you were lucky to get a class
SA A U D SD composed of generally good
students.

4. When students in your class forget something that you had already explained, it is usually because

- | | |
|---|-----------------------------------|
| I-----I-----I-----I-----I | a. you do not possess a natural |
| SA A U D SD | ability to teach. |
| | |
| I-----I-----I-----I-----I | b. you did not put in enough |
| SA A U D SD | effort in explaining the |
| | topic. |
| | |
| I-----I-----I-----I-----I | c. the topic area is particularly |
| SA A U D SD | difficult. |
| | |
| I-----I-----I-----I-----I | d. you were unlucky in getting a |
| SA A U D SD | particularly slow class this |
| | year. |

5. Suppose your principal says you are doing a fine job. This is likely to happen because

- | | |
|---|----------------------------------|
| I-----I-----I-----I-----I | a. of your natural ability to |
| SA A U D SD | teach. |
| | |
| I-----I-----I-----I-----I | b. of the effort you put into |
| SA A U D SD | teaching. |
| | |
| I-----I-----I-----I-----I | c. the material you are teaching |
| SA A U D SD | is quite basic and easy to |
| | learn. |
| | |
| I-----I-----I-----I-----I | d. you were lucky to get a good |
| SA A U D SD | academically abled class this |
| | year. |

6. If most of the students in your class are doing very well, it is probably because

- | | |
|---|-------------------------------------|
| I-----I-----I-----I-----I | a. of your natural ability to |
| SA A U D SD | teach. |
| | |
| I-----I-----I-----I-----I | b. of the effort you put into |
| SA A U D SD | teaching. |
| | |
| I-----I-----I-----I-----I | c. the material you are teaching is |
| SA A U D SD | quite basic and easy to learn. |
| | |
| I-----I-----I-----I-----I | d. you were lucky to get a good |
| SA A U D SD | class academically to begin. |

7. If you are working with a student who can't understand a concept and he suddenly "gets it", it is likely to happen because

- | | |
|---|----------------------------------|
| I-----I-----I-----I-----I | a. of your natural ability to |
| SA A U D SD | teach. |
| I-----I-----I-----I-----I | b. of the effort you put into |
| SA A U D SD | teaching. |
| I-----I-----I-----I-----I | c. the material takes a while to |
| SA A U D SD | understand anyway. |
| I-----I-----I-----I-----I | d. you were lucky at that |
| SA A U D SD | moment. |

8. If few of your students by the end of the year are able to master the basic objectives established for their grade level, it is most likely because

- | | |
|---|------------------------------------|
| I-----I-----I-----I-----I | a. you do not possess a natural |
| SA A U D SD | ability to teach. |
| I-----I-----I-----I-----I | b. you did not put in enough |
| SA A U D SD | effort. |
| I-----I-----I-----I-----I | c. the objectives were established |
| SA A U D SD | unrealistically high. |
| I-----I-----I-----I-----I | d. you were unlucky in being |
| SA A U D SD | assigned a particularly slow |
| | class this year. |

9. When a large percent of the students in your class are doing poorly, it usually happens because

- | | |
|---|-----------------------------------|
| I-----I-----I-----I-----I | a. you do not possess a natural |
| SA A U D SD | ability to teach. |
| I-----I-----I-----I-----I | b. you did not put in enough |
| SA A U D SD | effort. |
| I-----I-----I-----I-----I | c. the topic area is particularly |
| SA A U D SD | difficult. |
| I-----I-----I-----I-----I | d. you were unlucky in being |
| SA A U D SD | assigned a particularly slow |
| | class this year in |
| | understanding and learning. |
| | with. |

10. Suppose you present some new material to your students and most of them remember it. This is likely to be because

- | | |
|---|------------------------------------|
| I-----I-----I-----I-----I | a. of your natural ability to |
| SA A U D SD | teach. |
| | |
| I-----I-----I-----I-----I | b. of the effort you put into |
| SA A U D SD | teaching. |
| | |
| I-----I-----I-----I-----I | c. the material is quite basic and |
| SA A U D SD | easy to learn. |
| | |
| I-----I-----I-----I-----I | d. you are lucky to have a good |
| SA A U D SD | class academically to begin with. |

11. When your students do poorly on a test, it is because

- | | |
|---|-------------------------------------|
| I-----I-----I-----I-----I | a. you do not possess a natural |
| SA A U D SD | ability to teach. |
| | |
| I-----I-----I-----I-----I | b. you did not put in enough effort |
| SA A U D SD | in teaching the material covered |
| | by the test. |
| | |
| I-----I-----I-----I-----I | c. the test was too difficult. |
| SA A U D SD | |
| | |
| I-----I-----I-----I-----I | d. you were unlucky in being |
| SA A U D SD | assigned a particularly |
| | slow class this year. |

12. If a child does not do well in your class, it is probably because

- | | |
|---|-------------------------------------|
| I-----I-----I-----I-----I | a. you do not possess a natural |
| SA A U D SD | ability to teach. |
| | |
| I-----I-----I-----I-----I | b. you did not put in enough effort |
| SA A U D SD | in helping this child. |
| | |
| I-----I-----I-----I-----I | c. the material is particularly |
| SA A U D SD | difficult. |
| | |
| I-----I-----I-----I-----I | d. you happened to get some poor |
| SA A U D SD | students this year who started |
| | off way below the others. |

13. When you are having a hard time getting your students interested in a lesson, it is usually because

- | | |
|---|----------------------------------|
| I-----I-----I-----I-----I | a. you do not possess a natural |
| SA A U D SD | ability to teach. |
| I-----I-----I-----I-----I | b. you are not putting in enough |
| SA A U D SD | effort. |
| I-----I-----I-----I-----I | c. the lesson is particularly |
| SA A U D SD | boring. |
| I-----I-----I-----I-----I | d. you were unlucky in getting a |
| SA A U D SD | group of students who generally |
| | are difficult to motivate. |

14. If all of your students by the end of the school year are mastering the basic objectives established for their grade level, it is most likely because

- | | |
|--|-------------------------------------|
| I-----I-----I-----I-----I | a. of your natural ability to |
| SA A U D SD | teach. |
| I-----I-----I-----I-----I | b. of the effort you put into |
| SA A U D SD | teaching. |
| I-----I-----I-----I-----I | c. the objectives are a minimum |
| SA A U D SD | and easy for all to obtain. |
| I-----I-----I-----I-----I | d. you were lucky to get students |
| SA A U D SDO | who, on the whole, are particularly |
| | bright. |

15. When your students seem interested in your lesson right from the beginning, it is because

- | | |
|---|------------------------------------|
| I-----I-----I-----I-----I | a. of your natural ability to |
| SA A U D SD | teach. |
| I-----I-----I-----I-----I | b. of the effort you put into |
| SA A U D SD | teaching the lesson. |
| I-----I-----I-----I-----I | c. the topic is one which students |
| SA A U D SD | generally find interesting. |
| I-----I-----I-----I-----I | d. you were lucky to get students |
| SA A U D SD | who are generally motivated to |
| | learn. |

16. On those days when you are depressed and feel you are not doing as good a job as you would like, it is because

I-----I-----I-----I-----I a. you do not possess a natural
SA A U D SD ability to teach.

I-----I-----I-----I-----I b. you do not put in enough effort.
SA A U D SD

I-----I-----I-----I-----I c. the material you are covering is
SA A U D SD very difficult to teach.

I-----I-----I-----I-----I d. it is one of those unlucky days
SA A U D SD when everything goes wrong.

ATTRIBUTIONAL STYLE QUESTIONNAIRE

- 1) Read each situation and vividly imagine it happening to you.
- 2) Decide what you believe would be the one major cause of the situation if it happened to you.
- 3) Write this cause in the blank provided.
- 4) Answer three questions about the cause by circling ONE NUMBER per question. DO NOT circle the words.
- 5) Go on to the next question.

SITUATIONS

YOU MEET A FRIEND WHO COMPLIMENTS YOU ON YOUR APPEARANCE.

- 1) Write down the one major cause: _____
- 2) Is the cause of your friend's compliment due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me. people
or circumstances.

- 3) In the future when you are with your friend, will this cause again be present?

Will never again be present. 1 2 3 4 5 6 7 Will
always be present.

- 4) Is the cause something that just affects interacting with friends, or does it also influence other areas of your life?

Influences just this 1 2 3 4 5 6 7 Influences all
particular situation. situations in my life.

YOU HAVE BEEN LOOKING FOR A JOB UNSUCCESSFULLY FOR SOME TIME.

- 5) Write down the one major cause: _____
- 6) Is the cause of your unsuccessful job search due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

7) In the future when you look for a job, will this cause again be present?

Will never again 1 2 3 4 5 6 7 Will always be present.
be present.

8) Is the cause something that just influences looking for a job, or does it also influence other areas of your life?

Influences just this 1 2 3 4 5 6 7 Influences all
particular situation. situations in my life.

YOU BECOME VERY RICH

9) Write down the one major cause: _____

10) Is the cause of your becoming rich due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

11) In your financial future, will this cause again be present?

Will never again 1 2 3 4 5 6 7 Will always be present.
be present.

12) Is the cause something that just affects obtaining money, or does it also influence other areas of your life?

Influences just this 1 2 3 4 5 6 7 Influences all situations
particular situation. in my life.

A FRIEND COMES TO YOU WITH A PROBLEM AND YOU DON'T TRY TO HELP HIM/HER.

13) Write down the one major cause _____

14) Is the cause of your not helping your friend due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

15) In the future when a friend comes to you with a problem, will cause again be present?

Will never again be present. 1 2 3 4 5 6 7 Will always be present.

16) Is the cause something that just affects what happens when a friend comes to you with a problem, or does it also influence other areas of your life?

Influences just this. 1 2 3 4 5 6 7 Influences all areas.

YOU GIVE AN IMPORTANT TALK IN FRONT OF A GROUP AND THE AUDIENCE REACTS
NEGATIVELY.

17) Write down the one major cause: _____

18) Is the cause of the audience's negative reaction due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

19) In the future when you give talks, will this cause again be present?

Will never again be present. 1 2 3 4 5 6 7 Will always be present.

20) Is the cause something that just influences giving talks, or does it also influence other areas of your life?

Influences just this 1 2 3 4 5 6 7 Influences all
particular situation. situation in my life.

YOU DO A PROJECT WHICH IS HIGHLY PRAISED.

21) Write down the one major cause: _____

22) Is the cause of your being praised due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

23) In the future when you do a project, will this cause again be present?

Will never again 1 2 3 4 5 6 7 Will always be present.
be present.

24) Is the cause something that just affects doing projects, or does it also influence other areas of you life?

Influences just this 1 2 3 4 5 6 7 Influences all
particular situation. situations in my
life.

YOU MEET A FRIEND WHO ACTS HOSTILELY TOWARDS YOU.

25) Write down the one major cause:_____

26) Is the cause of your friend acting hostile due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

27) In the future when interacting with friends, will this cause again be present?

Will never again 1 2 3 4 5 6 7 Will always be present.
be present.

28) Is the cause something that just influences interacting with friends, or does it also influence other areas if your life?

Influences just this 1 2 3 4 5 6 7 Influences all
particular situation. situations of my life.

YOU CAN'T GET ALL THE WORK DONE THAT OTHERS EXPECT OF YOU.

29) Write down the one major cause:_____

30) Is the cause of your not getting the work done due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

39) In the future when you apply for a position, will this cause again be present?

Will never again be present. 1 2 3 4 5 6 7 Will always be present.

40) Is the cause something that just influences applying for a position,
or does it also influence other areas of your life?

Influences just this particular situation.	1	2	3	4	5	6	7	Influences all situations in my life.
--	---	---	---	---	---	---	---	---------------------------------------

YOU GO OUT ON A DATE AND IT GOES BADLY.

41) Write down the one major cause: _____

42) Is the cause of the date going badly due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

43) In the future when you are dating, will this cause again be present?

Will never again be present.	1	2	3	4	5	6	7	Will always be present.
---------------------------------	---	---	---	---	---	---	---	----------------------------

44) Is the cause something that just influences dating, or does it also influence other areas of your life?

Influences just this 1 2 3 4 5 6 7 Influences all
particular situation. situations in my life.

YOU GET A RAISE

45) Write down the one major cause: _____

46) Is the cause of your getting a raise due to something about you or something about other people or circumstances?

Totally due to other 1 2 3 4 5 6 7 Totally due to me.
people or circumstances.

47) In the future on your job, will this cause again be present?

Will never again be present. 1 2 3 4 5 6 7 Will always be present.

48) Is this cause something that just affects getting a raise, or does it also influence other areas of your life?

Influences just this	1	2	3	4	5	6	7	Influences all
particular situation.								situation in my
								life.

c 1984 by Dr. Martin E.P. Seligman. All rights reserved. Dr. Martin E.P. Seligman acknowledges the significant contribution of Dr. Mary Lane Layden to the authorship of this questionnaire. Dr. Seligman acknowledges Dr. Lyn Abramson, Dr. Lauren Alloy, Dr. Nadine Kaslow, and Amy Semmel for their significant contributions to the questionnaire's theory, refinement, and validation. Dr. Seligman acknowledges Dr. Christopher Peterson, Dr. Carl von Baeyer, and Peter Schulman for their significant contributions to the questionnaire's statistical analysis and validation.

APPENDIX B
LETTERS

7485 Clay Street
Merrillville, IN
46410
219-942-6314
October 20, 1992

Superintendent
District

Re: Doctoral Questionnaire Sample

Dear Dr.:

I am a doctoral student at Loyola University and beginning my research on the teacher-efficacy construct. Research on teacher effectiveness has shown that low-efficacy functioning is significantly related to low-levels of student achievement. The purpose of my research is to identify attributional correlates of efficacy as a means of understanding patterns of low-efficacy functioning. I am attempting to investigate causal attributions related to levels of efficacy by means of three questionnaires which I have enclosed.

I wish to request permission to use District Public Schools as part of my sample. The questionnaires will be collected anonymously and be, of course, voluntary. I would like to be able to distribute the questionnaires system-wide.

Thank you for your consideration.

cc: Dr.

Enc.

7485 Clay Street
Merrillville, IN
46410
219-942-6314
October 12, 1992

Principal

Re: Dissertation Sample

Dear Mr. :

I have enclosed a letter from Dr. I would like to use Elementary School as part of the sample for my doctoral research into the teacher efficacy construct. Teacher efficacy is a part of a teacher's belief system related to beliefs in the effectiveness of teaching and personal teaching effectiveness. Recent studies have shown that this construct is significantly related to student achievement and teacher behaviors. I am attempting to investigate what attributions or causes of efficacy are related to high and low levels of efficacy.

Attribution training is a relatively new area which has shown promising results. I am hoping to relate this study of efficacy to attribution training in education - that is teacher training and staff development.

With your permission, I would like to send the enclosed questionnaires to your staff. The responses would, of course, be voluntary and anonymous. If you and your staff are interested, I would gladly share my results with you.

Thank you for any support you can give. I will be calling you to find out your decision.

7485 Clay Street
Merrillville, IN
46410
219-942-6314
November 12, 1992

Dear Colleague:

I would like to request your help in the completion of the enclosed forms. Dr. and Ms. have consented to permit me to ask your assistance.

I am a graduate student at Loyola University. My area of research is teacher efficacy which is defined as teacher beliefs. The importance of teacher efficacy has been shown in the research to be tied to increases in student achievement.

I am interested in teacher efficacy as it relates to causes of actions. The enclosed questionnaire is voluntary and anonymous.

Your help in this would be greatly appreciated.

Please fill out this cover sheet and both sides of the enclosed questionnaires and return them to me in the enclosed envelope.

Grade level taught _____ Class size _____ or
Avg. _____

Highest degree achieved _____

Years of teaching experience _____

Approximate number of pupils in school _____

Race _____

Age _____

Is your class homogeneous _____ or
heterogeneous _____?

Do you team teach? Yes _____ No _____

Sex Female _____ Male _____

Are you a parent? Yes _____ No _____

Economic level of your parents _____
Low _____ Middle _____ Upper Middle _____ Upper _____

Re: Teacher Efficacy Questionnaires
for doctoral study

December 3, 1992

Dear Colleague:

For those of you who responded to the Teacher Efficacy Questionnaires I would like to thank you for your support and best wishes.

If you have not yet completed your questionnaires, I would very much like to ask you assistance in returning them.

The study is going well, yet, the more respondents, the higher the accuracy of the results.

Thank you again.

Sincerely,

Charlene Conarty

7485 Clay Street
Merrillville, IN
46410
April 1, 1993

Superintendent

Dear Dr :

I would like to thank you, your principals, and your faculty for the cooperation you have given me in my doctoral research into the teacher self-efficacy construct.

In our continuing search for a means to educate all of our students with excellence and equity, research is telling us that our classroom teacher is a determining factor in whether we will accomplish our goals. The power of the teacher to influence both cognitive and affective development in our students is a crucial factor in determining what kind of an education a student will receive. The power to educate or not educate humanize or dehumanize is up to the individual teacher in the individual classroom.

The study attempted to deal with one factor in this dilemma, that is the factor of teacher self-efficacy and attributional style. The study concluded with some results which bear further investigation. I have included an abstract.

Again , thank you for the opportunity to include your district in the research.

Sincerely,

Charlene Conarty

cc: Principals

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The final copy has been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is, therefore, accepted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy.

April 7, 1993
Date


Director's Signature